The Central Park.—No. 1.

WE have hitherto remained silent in regard to the great work progressing in our midst, not from indifference or want of interest, but for want of time to make such personal examinations on the ground as would enable us to speak understandingly. The city papers have, from time to time, produced articles on the Central Park pretty equally divided between indiscriminate praise and indiscriminate condemnation. We can not be expected to indulge in either. Our province is that of candid and honest criticism, untainted, we trust, by prejudice either for or against any of the parties to which the work on the Central Park has unhappily given rise, and independently of them all. We assure the Commissioners of the Central Park that we entertain for them none but the kindliest feelings; we suppose them to be gentlemen disposed to profit by kindly advice, provided, of course, they are convinced of its soundness. Thus much for our position.

We purpose writing a series of articles on the Central Park, taking up a single subject at a time, such as the Grouping of Trees, Lawns, Roads, Bridges, &c., and treating it in its practical bearings; afterwards we propose to review the whole subject from an æsthetical stand-point. As a matter of choice, we should prefer to treat the subject from the latter point of view first, but we shall best accomplish our object in the manner first proposed; and, in doing this, we shall find much to praise and commend, and some things to condemn.

We propose, in the present article, to indulge in a few comments on the *grouping of the trees;* and we regret that our first subject should be one to call for an unfavorable criticism. The season for planting, however, is at hand, and we have indulged the hope that we might say something that would preserve a portion of the Park from the faults that have already been committed. Our first objection is, that the grouping is too monotonous, especially of the evergreens. Light and shade, variety of form, and the general harmonizing of details into a beautiful whole, seem to have been too much overlooked. We know the immense difficulty of successfully accomplishing these ends; but it seems manifest to us that too little effort has been made in this direction, and we think more ought to have been accomplished in this way by the talent now employed on the Central Park.

Our next objection is, that the trees are *too closely planted;* and this is a point to which we most earnestly call the attention of the Commissioners. This close planting, indeed, we consider the great and pervading blemish of that portion of the Park already laid out; it meets us wherever we turn. It is repugnant to all ideas of good taste and the fitness of things, to see large groups of hemlocks, pines, spruces, &c., planted from two to three feet apart, and within a foot of the pathway. We shall probably be told that it is done for present effect, and that it is designed to thin them out; to which we reply, this is a great mistake. The present effect on a cultivated taste is any thing but pleasing; it is true that the popular mind is

not highly educated on this subject, and is more or less pleased with a mere mass of green foliage; but the Central Park ought not to be made a school in which to foster this condition of things, but rather to educate the public mind for the enjoyment of the highest order of natural beauty. Then, too, the labor and expense of thinning out and replanting these trees ought to be avoided in a costly work like the Central Park. Many of these groups ought to be thinned out within the present year, or the individuality of the trees will be destroyed; moreover, (and this is an important point,) the growth of the trees is greatly checked while they remain in this crowded condition, and thus the grand object of a well-wooded park made more remote. Again, there is no excuse for thickly planting large growing trees, even for present effect, for we have a great variety of beautiful evergreen shrubs which can be used for filling in, and which in time will constitute a charming undergrowth. We think present effect and future grandeur can both be attained by a judicious use of materials at command.

This article has already reached the limits we proposed, and we shall continue this branch of the subject in our next. Before closing, however, we wish to express our conviction, that by far too great a proportion of the trees have died out. We have no means of knowing whether the cause of this is in lifting the trees, in the planting, or in the compost in which they are planted; but, with the facilities at command at the Central Park, the success ought to have been much greater. The Commissioners owe it to themselves to investigate the subject, and, if possible, discover the cause, and remove it.

In conclusion, we ask these gentlemen to consider the above suggestions in the same kind spirit in which they are written, and with the same view to the future glory of the Central Park.

ON THE CULTURE OF THE PINE-APPLE.

BY AN OLD GARDENER.

Within the last twenty years there has been a great advance made in the successful cultivation of the Pine-apple; and although that may be attributed, in a considerable degree, to the improvement in the structures for its growth, and in the methods of commanding the desired temperature, yet probably the advanced state of the knowledge of the laws and principles of vegetable life which has been acquired by practical men has done still more than the improvements in the appliances that they now have to work with.

As we all know, the Pine-apple is a tropical fruit. The general principles by which the growth of it is governed must be constantly borne in mind; and with a due attention to such of these as are consequent more or less upon its native habitat, the intelligent gardener will find little difficulty in adapting his practical skill to the production of fine specimens of the noble fruit.

The general principles alluded to in the preceding paragraph are chiefly the following: The range of temperature required is from 60° (Fahrenheit) to 90°, with the means of commanding bottom heat (to an equal extent, or nearly so,) in the soil in which the plants grow, or in the material in which the pots containing them are plunged when they are not grown in the soil

without pots. When growing vigorously, a considerable degree of moisture is required; more in the atmosphere than at the root, although the soil, at such time, requires to be kept in a damp condition, but so as never to remain saturated. Air must be supplied liberally when heat and light are abundant, to prevent the plants becoming drawn. A rapid growth, provided this is attended to, will always produce the finest fruit. At all times when the external temperature is low, the growth should not be so rapidly pressed forward, (especially that of the young stock,) but at the same time care must be taken not to produce a sudden check by too great a reduction of heat.

Having stated these general principles of cultivation, we will now give some account of the different modes that are adopted to obtain the requisite conditions of growth as regards plant structures, and modes of heating, and afterwards we will make some practical suggestions for the management of them.

The most simple but by no means the best structure for the growth of Pines is the Brick Pit, the heat being obtained from some fermenting material, such as stable manure, tan, or decayed leaves. When this is adopted, there should be an outer pit surrounding, or on three sides of, the inner one, to admit of the renewal by linings of the fermenting material from time to time, to keep up the heat.

An improvement upon the above pit is to run a brick flue through it, by which the heat can be much better insured; and by such means good fruit may be grown.

Still a better pit can be built by introducing a pipe for hot water with a return pipe beneath the soil, where it must be surrounded with broken bricks, or inclosed within a chamber or flue containing holes to admit the warmth to escape into the soil. By this means, in a pit not more than from twenty-five to thirty-five feet in length, a four-inch pipe will be found a very efficient agent; and we give the preference to such a combined arrangement of fire heat with that from some fermenting material, to that of either of them alone. The reason is this: It has been found by some of the most experienced pine-growers, that where fermenting materials are used a degree of luxuriance has been attained that could only (when compared with other modes of culture) be ascribed to the benefit derived in the shape of nourishment from the ammoniacal, and perhaps other gaseous products of fermentation, when introduced into and converted to its use by the soil in which the plants grow.

The most complete arrangement, at least one that is usually so considered, for a pinery, is, however, a span-roofed house, standing north and south. A narrow path runs round the house. The entire centre is then formed into a brick chamber some two feet deep, into which a hot water tank is introduced; and upon and above this chamber the bed of soil is placed to receive the plants, there being provision made for regulating the introduction of the heat through a stratum of rubble and gravel to the soil above; and for cutting it off altogether. Other pipes introduce the heated air from the chamber below into the house; or sometimes this is effected by a distinct set of hot water pipes.

This is a very effective structure in the hands of an efficient man, but the first cost, if well done, is considerable, and it is more liable to mismanagement than some of the more simple arrangements before adverted to.

Whatever method is adopted, good ventilation, at both top and bottom, should be provided for, and the heating apparatus so arranged that the ex-

ternal air may pass over it and become warmed sufficiently to prevent injury from a chill on its introduction into the house.

The side lights of a house should be so near the ground that the plants may stand on a level with and not below them. And as regards heat, the artificial means employed should be adequate to the supply of it, so as to command from 80° to 90° if needed, whatever may be the time of year.

We proceed to add some hints on culture.

Pine plants are raised from the crowns of the fruit, or from offsets or suckers produced by the stem. These, when taken off, should lie in a dry room for two or three days to harden, a few of the bottom leaves being first removed. These may be planted in a hotbed, or first potted each in a small pot three or four inches in diameter. The soil must be firmly pressed round them, and then let the pots be plunged in a hotbed, and shaded from the hot sun until well rooted. A little water will be required at root, and the tops should be surrounded by a moist atmosphere, which may be obtained by sprinkling them slightly. When the pot fills with roots, shift into a larger pot without breaking the ball of roots, and plunge them again in the bed.

The soil for Pines is a turfy loam not too heavy, chopped up with a spade, and used in a rough state, and not sifted. Some bone dust or broken bones may be added ; and a small quantity of decayed leaves or leaf mould will be of advantage, if the loam is stiff.

When the plants have been shifted once out of their striking pots, those that have made good roots to fill the pots may be grown rapidly through the summer and fall months, increasing the supply of moisture and air, according to the heat, and shifting as required by the degree of the root growth, until they are got into their fruiting pots, which may be not less than ten or twelve inches in diameter. It is undoubtedly best to plunge the pot up to the rim, or nearly so, during the whole time of growth, as it is much easier to maintain the temperature at the desired point by so doing.

In shifting the plants examine the roots, and disentangle or loosen slightly the points of some from the ball, so that they may readily take hold of the new soil when shifted ; but avoid breaking or cutting away any except a decayed root. It is best to avoid shifting plants from October to February in localities where the external temperature is severe in winter. During those months light is deficient, and the aim then should be (by keeping the plants at a temperature not less than 60° to 65° at night to 75° in day) to prevent them from sustaining any check, but not to stimulate growth, until the approach of spring and summer affords the expectation of congenial temperature to aid the exertions of the gardener.

The system of planting out the Pines in the house instead of fruiting them in pots is now much more popular with pine-growers than it formerly was ; and provided the arrangement is good for the supply of bottom heat, it doubtless has many advantages ; and it also saves labor. Without adopting the tank system referred to above, the bed for the plants may be prepared by covering the bottom with a layer, well rammed down, of stones, broken bricks, and rough gravel, some six or eight inches deep. On this lay hot water pipes, covering them over with the same material, and then a layer of turf over the whole ; upon this place the soil for the plants about twelve inches deep. The soil should consist of the turfy loam before mentioned, rough, and rather larger bones (broken the size of walnuts) than for pot culture.

After planting keep the house shaded a few days, and rather moist and close. Give air liberally in fine, bright weather, and water sufficient to keep the soil damp, but not saturated. The atmosphere should be kept always moist (except in severe weather) by sprinkling the plants, (but not so as to cause water to remain standing in the axils of the leaves,) and by throwing water on the paths. Give air liberally whenever the external temperature allows, and shade slightly in very hot weather. Never let the temperature sink below 58° to 60°. With favorable weather and a rapid growth in progress, it may advance to 90°, or even higher. More water at root will be required as the fruiting plants swell to maturity, but when full grown slightly reduce the moisture at top and bottom, by which means the ripening process will be more complete and the flavor enhanced.

The same rules of general management apply equally to the plants in pots.

[At this time, when pineries are occupying no inconsiderable share of attention, the above interesting article by an old pine-grower will prove highly acceptable. We have the promise of more on the same subject. There are already four pineries in the vicinity of New York, and more under way. —Ed.]

LANDSCAPE ADORNMENT.—No. IV.

BY GEO. E. WOODWARD,

Civil and Landscape Engineer, 29 Broadway.

Color, as used in ornamental planting, enables one to produce many varied, beautiful, and artistic effects, not only by appropriating aërial perspective, but by opening a study in the habits and changing colors of trees that hitherto has not attracted much attention. The tree that with the opening spring comes out with a fresh yellow-green, will, through the changes of summer and autumn, exhibit many tones of color, and, finally, the dying leaf will assume the brilliant and gorgeous hue so peculiar to our autumnal climate. To plant a vista, or group, so combined with various species of trees, that, with each changing season, or week, or day, the harmony of color shall still be preserved, and their crimson glories be in unison with and fade off to the slightly-varying colors of the evergreens, requires a refined and cultivated taste to arrange and to appreciate.

Those deciduous trees, whose autumnal beauties are so much admired, are foreground trees when in the glory of their summer verdure. Their greens are rich, warm, and beautiful, and their fading tints of brilliant colors are still more of that warm and positive character; yet among autumnal tints there are some that are cooler than others, and should be planted in the distance. Very beautiful effects might be produced by planting groups both for the summer effect of rich verdure and the autumnal blending of gorgeous colors.

In planting vistas where we propose to make use of the effects of aërial perspective we must consider that a wide difference exists between a lighter color and a cooler color. Very many writers on this subject do not take this into consideration, but state that perspective vistas should run off into lighter colors, when the fact is, that middle and distant tones should be negative, not the warm yellow-greens of some of the lighter-colored trees.

Among the various ornamental trees selections can be made of colors that shade towards the blue, purple, or grey, for planting distant tints. We can not, however, always get the precise tint desired: it is easier to mix up a tint on our palette than to find it growing ready for our use. Nor is it possible to reach that degree of art which shall be beyond criticism; but we can execute that which will be appreciated, and is strikingly beautiful. Ornamental planting, considered artistically, differs much from every other application of art; unlike landscape painting in not being executed on a flat surface, with color and effects completely under control, resembling mosaic work in the selection of color in real objects, and yet embracing both natural and artificial perspective and atmospheric effects, dealing with real objects in color, form, light, shadow, relief, etc., and compelling nature, by the use of her own materials and suggestions, to complete her beautiful designs. A knowledge of art in one instance is knowledge for all applications of art; and the pencil, palette, and brush lead the way to educate the mind, the eye, and the hand, in all the leading principles of the arts of design and construction.

Many of the old writers on Landscape Gardening maintain, that planting with one variety of trees will produce the grandest effects. It is not true, however, in the bold teachings of nature; there we see a never-ceasing display of all varieties of color, form, species, etc., harmoniously blended. Harmony in landscape adornment will not admit of any ignorance of the combination, gradation, and blending of colors any more than it will admit of ignorance of form or habit of trees. Contrasts we prefer to create by light, shadow, and relief, more than by the violent opposition of color or form. All the requirements of art in an artist's hands can be made to produce that which is the most beautiful and most in accordance with the principles of good taste; the same requisites in other hands may be used as vile illustrations to prove the falsity of art. The colors on the palette are the same to all; but he who combines them, gradates, and harmoniously arranges them, has no inferior skill or ability, while the same colors, ignorantly or unskilfully applied, yield nothing but disappointment.

The use of color in plantations extends the field of variety, and, carefully studied in all its many applications, it will suggest new uses in concealing defects, revealing attractive points, or giving a new expression to landscape scenery.

> "He gains all points who pleasingly confounds,
> Surprises, varies, and conceals the bounds;
> Calls in the country, catches opening glades,
> Joins willing woods, and varies shades from shades;
> Now breaks, or now directs the intending lines;
> *Paints as you plant, and, as you work, designs.*"—POPE.

ROESSLE'S CELERY CULTURE.

MR. EDITOR:—Being curious to see the above work, by the modest manner in which its coming was heralded, I purchased a copy; and believing that I have paid pretty "dear for my whistle," I beg you will allow me to say a few words in relation to its contents.

In all the very small book the author does not advance a single idea that can be claimed as original. It is merely a very meagre relation of the

practice of *private* European gardeners, which our best market gardeners here discarded years ago, nearly as long since, in fact, as the lumbering stage-coach has been discarded for the locomotive. We should not have noticed the work in question if the author had confined his advice to private gardeners; but when he specially dedicates to market gardeners his "old fogy" practice as a new system, or even a good system, then we beg to tell him, and any unfortunate tyro into whose hands it may have fallen, of our method, and wherein we claim the advantage over Mr. Roessle's stage-coach practice.

First: all his directions about raising the plants in hotbeds are useless, from the simple fact that plants sown in the open ground in April and planted out in July will give excellent Celery the first week in September, which is as soon as it will sell in market—as soon as any one wants to eat it, except, perhaps, the guests of the Delavan House.

Second: the system of digging trenches two feet deep, prepared in the manner described by Mr. Roessle, and planting the Celery therein, will cost, in labor alone, nearly as much, by his own admission, (one cent per head,) as the average of Celery in New York market sells for! not taking any thing into account for the manure or the ground. Another unfortunate admission he makes, and one which is our main argument against the trench system, aside from expense, is the fact, that when a trench is dug two feet deep, and a small plant of Celery, or any thing else, planted at the bottom, the first heavy rain-storm will wash down the sides of the trench, and consequently cover up the plants with the soil. Mr. Roessle says he has lost hundreds of thousands of plants in this way, and still his disastrous experience has not much helped him, as he only recommends rounding the bottom of the trench, which involves further expense, and would help matters very little.

Nearly all the Celery sold in the New York markets is grown as a second crop; (Mr. R. never refers to it as such.) Our ground is first heavily manured in spring for our crops of early cabbages, beets, or onions, which are sold off usually by the first week in July. The ground is then cleared off, plowed, and harrowed, and at once planted with Celery, *if the ground is moist enough to receive it.* The Celery is planted in rows four feet apart for early, and three feet for the late crop—plants in each case six inches apart—all on the surface of the ground. This is what is technically termed the "flat" system. We never manure specially for Celery unless the crop preceding it has been neglected, and then we manure over the whole surface, as any one of experience knows that the feeding-ground for the roots is not confined to six inches on each side of the plants, but that they will meet in the centre of four-feet rows; hence the absurdity of manuring only in the rows. The culture of the crop by the "flat" system is very simple. In a week or so after planting, the ground is run through by the triangular hoe harrow; this is continued at intervals of ten or twelve days throughout the season to keep down the weeds and stir the ground. A man and horse cultivate four acres per day, or something near 120,000 roots, which, by the trench system, would require all to be hoed by hand, involving at least twenty times the amount of manual labor.

As soon as the Celery gets to be fifteen or eighteen inches high, instead of the hoe-harrow we use a plow to throw a slight furrow to the Celery; then the "handling" or straightening-up process is gone through with and a heavier furrow is then thrown against it. It is then allowed to remain eight or ten

days to extend the hearts, when the banking process is finished by the spade. This is the practice with what we sell in September, October, and November. That which we put away to preserve for winter use is done the same with in every respect, except that it is not banked up by the spade nor blanched in any way before being put away.

This brings us to another part of Mr. Roessle's system which we most emphatically condemn—"the burying away of Celery for winter." The practice, as described by him, is the same in every particular as was used by us about ten years ago. Since then our present plan has been almost universally adopted, the last of the "old fogies" having succumbed some years since. Having been engaged in the practice of both modes, I will state as a fact, that in the method recommended by Mr. R. (which we termed "store-beds") ten men were required to put away 5,000 roots per day; now the same number of men, by our present method can, with much lighter labor, put away 25,000 per day. Now, as this is a much-mooted point in Celery culture, I will endeavor clearly to explain the way we manage it.

The crop being all handled and straightened up, we begin to put away what we want for use through December on the first dry day after the 25th of October, (dates are of great importance for localities of the same temperature, though Mr. R. seems to ignore them altogether,) and so continue until we finish, which we usually do about the 15th of November; any later, in our district, is dangerous for frost; earlier, the Celery will whiten too quick, and rot.

Our manner of preserving is to choose a sandy, or at least a dry spot, in an open exposure, stretch a line, and dig a trench or drain ten or twelve inches wide, and of the depth of the Celery to be put away. It is then dug up, the earth well shaken from the roots, and packed *perpendicularly* in the trench or drain just tight enough not to bruise the stems. No earth is put to the roots whatever, the damp soil in the bottom of the trench giving out moisture enough to nourish the roots sufficiently for all purposes of blanching. It will be understood that the trench or drain is simply packed full of the Celery—an easy process, which any man can do, while by our old system, recommended by Mr. Roessle, very few men can be found to do it without considerable practice.

But our preserving process is not yet complete. Supposing we finish by the 15th of November, in this partially secured state it will withstand almost any frost we ever have during that month; but by the beginning of December we throw on the sides of the trench, so filled, about three inches of stable manure, yet still leaving a strip of green uncovered to permit evaporation; if closed up at once it will ripen too quickly. About the middle of December we make our final covering of six or eight inches of rough stable manure, pretty firmly packed down with the back of a fork over the tops of the Celery, and for one foot on each side, so as to prevent the severe frost from striking in from the sides of the trench. Our whole process of Celery culture is then finished, when it is ready at any time, or in any weather, to be taken out for market, no other trouble being required but to remove the straw covering and lift it up with the hands. By this plan of preserving we do not lose five per cent., while by that which Mr. Roessle's book treats of our losses were at least twenty-five per cent., and Mr. R. must have been unusually fortunate if his were any less.

Another matter that seems to exercise Mr. Roessle very much is what he

terms our disgusting practice of covering with stable manure, and assumes, with great self-complacency, that that is the cause of the rust he saw on some of the bunches in the New York market. Such a silly assumption as the last it is hardly worth while to refute; but if manure in contact with esculent roots is disgusting, the wonder is why he ever recommends its use at all, as I think it would give him some trouble to tell us how he manages to keep it away from the cuticles of radishes, potatoes, carrots, etc., which would be equally contaminated by it as the cuticle of the Celery stem. The rusting of Celery is from some other cause which we have yet to learn, although Mr. R. so triumphantly settles it to his own satisfaction.

There are some other matters that I will just allude to in this Celery book. He says that the trenches should only be prepared when the wind is either north or west, and that he will then plant without regard to rain, and never waters. Now I would like to ask him, or any other practical man, if he had planted Celery in such a summer as the past, where in most localities there has been no rain for thirty days, with a burning sun and high temperature, would there be a single plant alive? This smacks a little of our Jersey Dutchman's "moon-planting," of which we have still a few victims left.

Again he says, "Celery plants should never be topped before transplanting: leaves are the lungs of plants, and can no more be dispensed with than the same organs in animals." In this matter we are by no means so tender-hearted as our worthy author, for we mow off with the scythe at least three inches of the "lungs" twice in the season before transplanting, and yet in nearly half a million which we grow annually have very few consumptive subjects. Mr. R. has evidently a genius for arriving very rapidly at conclusions which seem quite satisfactory to himself.

The gentleman informs us that he is about to treat us to another hand-book on gardening products, and is going to give as his next, "How to raise a Potato Crop without 'Rot.'" What a world-wide philanthropist he will become! Ireland will be regenerated forthwith, and the green isle be again made to "blossom as the rose." Hurry up, Mr. Roessle! don't let starving thousands droop that might be saved by a few strokes of your magic pen; don't keep us longer in suspense, and you will much oblige

A JERSEY MARKET GARDENER.

[It is sometimes a very pleasant thing to fall into the hands of a Jerseyman; what Mr. Roessle will think of it in this particular instance we can only imagine. We have heretofore said, that in many respects we should be loth to follow Mr. Roessle's practice; and most practical men will probably agree with "A Jersey Market Gardener," that Mr. R.'s advice should have been confined to *private* practice.—ED.]

NOTES ON THE GLADIOLUS.

BY DANIEL BARKER, GARDENER TO B. K. BLISS, SPRINGFIELD, MASS.

AMONG summer flowering bulbous plants, the varieties of *Gladiolus gandavensis* may not inaptly be considered as one of the very best cultivated. It is difficult to conceive any thing more truly beautiful than a bed of the best varieties in bloom, when in a high state of cultivation. At no very remote period Gladiolus psitticinus was the only kind cultivated in the flower-

garden ; now, owing to the rapid improvement by cross fertilization within the last few years, there are some hundreds of varieties, some of which are extremely beautiful, and well worth any trouble and care that may be bestowed upon them.

I know nothing more surprising than the rapid strides that have been made within the last few years in the improvement of this rich, bright, and beautiful genus. Compare any of the plates in the gardening periodicals of a few years ago with those of the present day, or the number of varieties offered for sale in the catalogues of 1850 with those of the present year, and surprise at the advance can not but be the predominant feeling. But to fully appreciate their great beauty and merits as superior plants for flower-garden decoration, visit some establishment where the finest varieties are grown, and where no care and attention are considered too great to bestow upon them, and my word for it they will at once become petted gems ; and well they deserve it. To my mind, a good collection of them, grown in masses, with a background of dark green, is one of the most charming and effective that can be produced upon the flower-garden.

Whenever cut flowers are in demand the Gladiolus will be found to be among the most valuable. If a raceme be cut and placed in water just as the lower flowers commence to open, the whole of the flowers will expand equally as well as upon the plant.

The colors comprise a rich and greatly diversified combination of the most beautiful tints of scarlet, orange, and vermilion, with intermediate shades of white, pink, salmon, carmine, rosy salmon, with many others of the most beautiful conceivable colors, such as very few genera can offer.

The following is a list of some of the best varieties in cultivation : the description of each was taken when the plant was in the highest state of perfection, and may be fully relied upon.

GLADIOLUS GANDAVENSIS HYBRIDS.

Adonis.—A very fine variety, with tall scapes of flowers of a rosy salmon, shading off to soft carmine.

Aglæ.—A very showy variety of a fine salmon, richly shaded with bright carmine.

Amabilis.—A fine tall growing variety of a bright scarlet color: very effective.

Archimedes.—A very beautiful variety, the colors of which are a rich combination of scarlet, salmon, and carmine.

Brenchbiensis.—One of the most effective for growing in beds or groups, of a rich bright scarlet color with red stripes.

Calypso.—An extra fine variety, with noble racemes of flowers of a beautiful soft rose beautifully marked with carmine.

Canary.—Soft yellow, with shades of rose deepening in color as the flowers advance in age.

Clemence.—A charming variety, with extra fine racemes of flowers of a pure white ground finely striped with rose and bright crimson.

Ceres.—A new and very striking variety, with noble racemes of large flowers of pure white finely spotted with light rose and purple : extra.

Comtesse de Bresson.—In this fine variety we have a beautiful combination of scarlet, bright carmine, and rose.

Couranti Fulgens.—A very fine variety for groups or masses in the flower-garden : color bright dark crimson.

Chateaubriand.—A fine strong growing variety of a light vermilion red, frequently mottled with deep rose.

Daphne.—One of the earliest varieties, of a deep rich salmon color, striped with crimson: very effective.

Don Juan.—A fine variety, producing fine strong racemes of rich deep carmine flowers, shaded and striped with purple crimson.

Duc de Malakoff.—A new and elegant variety, producing fine strong racemes of flowers of a light yellow ground beautifully marked with deep orange and soft carmine.

Egerie.—A fine variety for growing in masses; a fine strong grower; the colors of the flowers are a beautiful combination of light salmon, carmine, and orange.

Goliath.—An extra strong growing variety; the flowers, when first opened, are of a brilliant carmine, gradually changing to orange red, frequently mottled with very soft rose.

Galathée.—A delicate and distinct variety of a beautiful creamy white blotched with carmine: extra.

Hebe.—A fine light salmon edged with white, and mottled with peach and light carmine.

Imperatrice.—A fine strong growing variety, well adapted for planting in masses; flowers a rich rosy salmon.

Joan of Arc.—An indispensable variety wherever the Gladiolus is grown; flowers a delicate white, slightly tinted with rose and striped with rich violet carmine: extra beautiful.

Lord Raglan.—A new and very beautiful variety, with very large flowers of a rich salmon finely blotched with vermilion: very fine.

Le Toussin.—A new variety of great merit; flowers a vermilion red upon pale sulphur ground, the lower petals spotted with white: extra fine.

Jenne.—A new and very beautiful variety of a fine rosy orange color, finely spotted on a light sulphur ground: extra fine.

Madame Auguste Lefebvre.—An elegant variety of a light peach color, striped and blotched with carmine and deep red.

Mathilde de Landevoisin.—A fine variety, producing large strong racemes of white flowers striped with deep violet purple.

Monsieur Corbay.—A fine orange carmine, finely shaded with scarlet.

Napoleon III.—One of the finest varieties grown, producing large strong racemes of flowers of the brightest scarlet beautifully streaked with white: *extra extra.*

Neptune.—A beautiful variety of elegant habit, flowers of a shaded carmine, very rich and effective.

Ninon de l'Endos.—One of the most desirable of the light class; flowers a delicate blush white and rose with crimson centre.

Pellonia.—A very beautiful mottled variety of bright rose and carmine: extra fine.

Sulphureus.—Sulphur yellow; very effective.

Triomphe d'Enghein.—An elegant variety for beds and masses, shaded crimson, of very dwarf habit.

[We agree with Mr. Barker, that the improved varieties of the Gladiolus are among the most beautiful objects which adorn the flower-garden. The new ones introduced last spring are strikingly beautiful, and we trust will have a wide dissemination.—Ed.]

THE CULTURE AND MANAGEMENT OF HYACINTHS, IN POTS, GLASSES, AND BORDERS.

BY WILLIAM ELLIOTT, NEW YORK.

The months of September, October, and November are usually regarded as the proper season for planting the majority of bulbous-rooted plants: a word or two as to the manner of doing it may therefore not be considered out of place, but be acceptable to those who, for the first time, attempt to grow their own flowers, for whom, indeed, the following remarks are chiefly intended.

Plants of this class form what may be termed the staple of our earliest blossoms. They may be had from December to April in constant succession with perhaps less trouble than would attend the culture of most plants for so long a period at the most inclement part of the year; hence their value and universal adoption.

Like its allies, the hyacinth delights in a rich porous soil; this is easily provided by mixing together one-third coarse sea or river sand, one-third thoroughly decomposed turf, one-fourth rotten cow-dung at least two years old, and the remainder decayed leaves. A compost of this kind I have used for a number of years, and in all cases have found it sufficient to meet the requirements peculiar to the class of plants under consideration. It is a matter of much importance to the grower to be particular in regulating the time of potting to that of the time they are required to be in bloom, for it is next to impossible to expect bulbs to throw up fine flowers, which have only been potted a few days previous to their exposure to the action of light and heat; they can not have provided themselves with the means of living, let alone those required to perfect their floral development. Their utmost endeavors, the greatest efforts of their nature, are therefore altogether abortive; in short, they are rootless, and plants without roots are in a state of nullity as regards development of any kind; but pot them early to allow time for the protrusion of roots, and your efforts will be crowned with success.

With regard to the mode of potting, it is very simple, and may be thus described: In the first place, drain your pots thoroughly by means of broken potsherds placed in the bottom of each pot; then fill the pots to the rim with the compost already referred to, without pressing it down; take the bulb and place it on the surface, pressing it down until its neck is level with the rim of the pot, watering the whole, using a moderately fine rose, to settle the soil round the base of the bulb; then remove them to a cold frame or some sheltered situation, standing the pots close to each other on a thick layer of charcoal dust or boards, to prevent the ingress of worms; cover them entirely over to the depth of a foot or eighteen inches with fresh leaves or saw-dust; but I prefer the former on account of the genial heat which they impart, being highly conducive to a vigorous start: they ought to remain in this position for at least from four to six weeks, affording the bulbs an opportunity to make plenty of roots. During the time they remain in this position they will require examining two or three times, giving water when required. After standing for the time mentioned they will have started to grow: select from among them the most forward, and shift them into a larger-sized pot, leaving the remainder to come in in succession, to be treated similarly. They

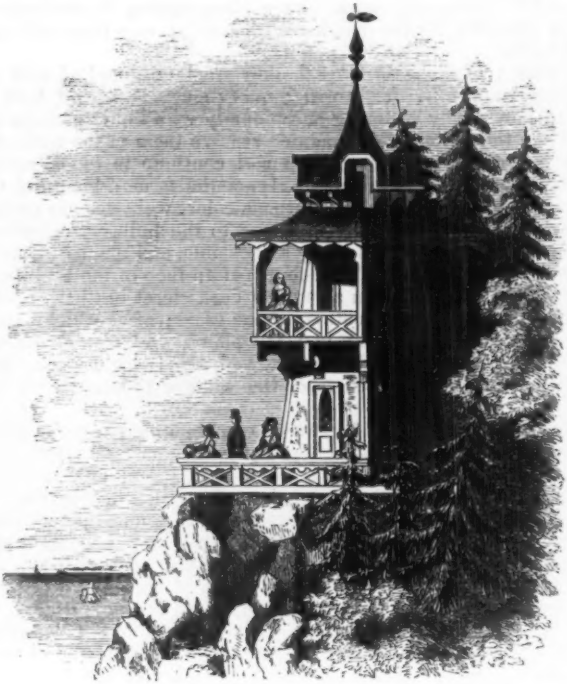
may now be considered in a fit position to be brought into the greenhouse or parlor. In doing so be careful that the temperature of the house does not exceed 55° or 60° for the first week or ten days, raising it gradually as they advance in growth; for too much excitement at any time will inevitably spoil the plants.

As the plants advance in growth they must be supplied with water as often as they require it. They will be very much improved, both in vigor and color of flowers, by watering occasionally with liquid manure or guano water. When the flowers are expanded remove them to the coolest place in the parlor or greenhouse, where they will continue in bloom much longer than if left in a high temperature. Hyacinths form a beautiful ornament when grown in glasses. For this purpose colored glasses are preferable to white, because too much light is injurious to the bulb. The bulbs for this purpose should be procured as early as possible, and placed in the glasses, filled up to the neck so as about one-fourth of an inch of the bulb is covered, using soft water, standing them away in a dark closet until their long fleshy roots have nearly reached the bottom of the glass; after which expose them gradually to the lightest position you can afford. As soon as the water becomes fetid and muddy it should be renewed, say twice a week. In severe weather they must be removed from the window to keep them free from frost.

Those intended for out-door decoration can be planted from the latter end of September to the middle of November; but the sooner the better. As regards the planting, it is done, nine times out of ten, in a manner that would prove fatal to things of far less value. A hole made with a dibble into which the bulb is thrust without any other apparent desire than to place them out of sight, is the sum of attention they receive, in this very important operation, at the hands of some of our patent practitioners; and when the blooming season comes, instead of having a fine bloom of strong thrifty plants, the reverse is experienced. As a matter of course the blame is thrown upon the quality of the bulbs, which, in nine cases out of ten, do not deserve it. As I have already stated, all bulbous plants should be allowed every facility for the spread of the roots; and the only way to insure this is to stir up the beds or borders to the depth of two feet, mixing in at the same time as much rotten cow-dung and coarse sand as practicable. This done, remove from the surface about four inches of soil; then place the bulbs on the surface from nine inches to a foot apart, covering the whole with the soil removed, leaving the soil perfectly loose. In the opposite case—planting with a dibble—the soil is compressed all round, which, if the soil is adhesive, forms a receptacle for water to generate to the utter destruction of the roots.

The only additional attention they will require will be a good thick covering of rough manure to prevent the frost from penetrating too deep.

[Much obliged to you, Mr. Elliott, for your sensible remarks on bulb culture. Mr. E.'s friends know him as a "sound" writer on such subjects, but in this case he has forgotten the size of his pots. It will do to begin with four-inch pots and shift into six-inch size.—Ed.]



OBSERVATORY.

DESIGNS IN RURAL ARCHITECTURE.—No. 6. RURAL OUTBUILDINGS.

BY GEO. E. HARNEY, LYNN, MASS.

In continuation of our last, we herewith present two more designs of outbuildings, an Observatory and a Pump House.

The first represents an Observatory or look-out Tower, suitable for a situation on a high bluff, overlooking the ocean, or an extensive land prospect. This tower consists of two stories. The lower is ten feet high, and is surrounded by a gallery about eight feet wide, and guarded by a heavy balustrade. Inside the building are the stairs to the second floor: we here have a hexagonal chamber, surrounded on all sides by a covered balcony opening from it by means of casement windows.

A building like this should have a very strong frame, well put together,

PUMP HOUSE.

and should be tied to its foundation by means of iron rods, with elbows firmly wedged into the rock. This will enable it to stand perfectly secure in the strongest winds.

The second is a design for a Pump House, built of rough twigs in the same manner as No. 1 in the HORTICULTURIST for September. It is six feet square.

EXPERIENCE *vs.* THEORY.

BY JOHN B. EATON.

NEARLY annihilated as I would naturally be supposed to have been by the crushing denunciation of the gentleman from Fox Meadow, in your September number, it is, perhaps, no more than proper, Mr. Editor, that I should show some indications of not being quite extinct, and of having sufficiently recovered to be capable of writing a few lines by way of rejoinder.

A grievous and unpleasant thing it unquestionably is to have unwittingly fallen under the severe displeasure of such "a veteran grape-grower" as Mr. John Ellis, but it is still a slight comfort to be informed that he has "no particular objection" to my plan, except in so far as it conflicts with his own prejudices, which, unfortunately, happen to be at variance with nearly every one of my suggestions.

This is to be greatly deplored; and at the risk of being utterly extinguished

by another broadside from Mr. Ellis, I will endeavor to show that I am not so entirely wrong in every particular as he endeavors to prove.

I have been informed that Mr. Ellis grows very good grapes. I am unable to say whether he grows them in the old-fashioned shed-roofed, lean-to houses for which he expresses such a decided preference. Perhaps it would have been well had he enlightened us upon this point, and also stated whether he had ever grown grapes in a house such as he so unhesitatingly condemns. If, as I infer, his houses are built upon the lean-to principle, it might be well to inquire whether he grows vines upon the back wall, and if so, whether they do not receive much less light, and ripen their wood and fruit far less perfectly, than on the north side of a span-roof. If he grows but a single row of vines, I should think it decidedly cheaper for "a commercial man" to have a *little* more glass, and a much larger quantity of grapes, by inclosing them under a span-roof. This proposition is, I believe, pretty generally admitted. Not so his statement, that "we invariably find in all houses erected on the curvilinear principle, that the vines and fruit are better on one side of the house than on the other." This is true of houses placed on an east and west line, but I have yet to be convinced that it is "invariably" the case. There are within the limits of this city over twenty curvilinear-roofed vineries, of various forms, and in various positions; and I am quite certain that unless one side has a nearly full southern exposure, Mr. Ellis would find much difficulty in detecting any important difference between the fruit from either side of any of them; lean-tos of course excepted. "Around New York" it may be the case that a house glazed upon all sides "makes a very poor forcing-house." We, who don't happen to have the pleasure of living in that favored vicinity, may possibly be permitted to entertain a different opinion; and I can instance a very good forcing-house, belonging to a "commercial" establishment in which I was once interested, that was not only glazed all round, but with the exposed end facing nearly north. In this we grew no grapes, but plants infinitely more tender were forced very successfully, the house being a part of a range of sufficient extent to require some 3,000 feet of pipe, worked from one boiler. I could also mention a propagating house, a structure usually considered as requiring more protection than any other, of glass, less than a hundred miles distant, built by a "commercial" firm of much intelligence and enterprise, with the intention of its being a model of its kind, which has a span-roof, and is not connected with any building. It has been for several years in operation, and has, I believe, given entire satisfaction. It would seem, therefore, that a lean-to roof is not absolutely indispensable.

It is perhaps superfluous for me to allude to the varieties proper to be grown, as Mr. Ellis proposes "to settle the whole question on this point at once," by his individual dictum.

I have no intention of denying that the Black Hamburgh is the most profitable variety that is cultivated, but we "country cousins" are not yet civilized to that degree which would render it impossible to eat anything but "Hamburghs and Muscats;" and other varieties *are* eaten, and sold, too, not quite so readily, perhaps, but still at prices varying but little, if any, from the standard. Consequently I see no good reason why the earlier sorts should not be planted to a limited extent; for if it is an object to force grapes at all, the difference of fifteen or twenty days in time of ripening between

the Chasselas, etc., and the Hamburghs, is certainly worth something, even to "a commercial man."

I confess myself a little disappointed in Mr. John Ellis. From his former communications I imagined him to be a very sensible, clever man; but the tenor of his last one strongly inclines me to suspect him of being one of those self-sufficient, captious "practical gardeners," who are so strongly impressed with the opinion that they are the fountains of all horticultural knowledge, that they are not willing to allow that any one out of their own guild has a right to speak of matters pertaining to their craft.

[Fox Meadow's style is forcible, and he expresses his opinions confidently, but we should be sorry to think he was animated by any unkind feeling; we would rather hope that both parties have no other desire than to be useful, and will not lose their temper.—Ed.]

REVIEW OF THE GRAPE QUESTION.

BY A. S. FULLER.

(*Continued from page* 441.)

The Detached and Divided Border.—We are really surprised that the author of this work should claim this as original, or even *new;* for vine borders upon the same principle, if not in the exact form, were constructed more than one hundred years ago, as may be seen by consulting almost any work upon gardening of that time.

Clement Hoare, in his work on the cultivation of the grape, an edition of which was published by W. D. Ticknor, of Boston, in 1837, advocates this form of border, and his plan is so similar to that in the work under consideration, that we are induced to quote a few lines from each.

Bright, on page 55, says, "The inside border, at first, if true economy be consulted, should be made only two feet deep and three feet wide, resting upon a concrete bottom, with six inches of small rough stones or oyster-shell drainage above it," etc. Page 61 he further says, "That in addition to placing the grape border altogether inside the house, and detaching it from the front wall and from the soil, we have also lately divided the border into sections two feet wide by brick partitions, keeping every vine by itself," etc.

Hoare on the Grape, page 159: "Another general rule also remains now to be mentioned, which must not be departed from. All vines intended for early forcing should be planted *inside* of the vinery." Page 160, after giving directions for the excavation of the border, he continues: "Pave the whole area of the bottom with good hard bricks, well jointed together either with cement or well-prepared mortar."

"Now, as a series of walls is to be run up parallel to the ends of the house for the flooring bricks to rest upon, the next step to be taken is to divide the area of the bottom into as many equal portions, or breadths, as shall be equal to the number of vines intended to be planted.

"The roots of each vine being thus kept separate, any vine can be taken up, and removed, if circumstances should at any time render it necessary, without disturbing the roots of the other vines." Thus it can be seen that the detached and divided border is far from being original with Mr. Bright.

Proper drainage is well known to be the first essential thing in making a vine border; and that the soil is certainly more congenial to the grape than a solid and impervious concrete, is evident. The injurious effects resulting from the roots of the vines going to too great a depth in the soil, which is urged by some vine-growers, is not so great an evil as would result from the impervious bottom. These impervious bottoms prevent not only the passing down of surplus moisture, but prevent the ascent of underground warmth.

These divided borders with impervious bottoms have been thoroughly tried in England, and in a few instances in this country, and we regret to say that in most instances they have failed to give satisfaction.

Mr. Marnock, of the Botanic Garden of Regent Park, England, says that he had made such borders, and upon examining several of them, that he very much doubted their practicability, as the moisture could not escape, although the borders may slope very rapidly to the front drain.

The fine sediment that will descend to the bottom and fasten itself there, will form a thick puddle that will prevent the surplus moisture being carried away, and the roots that come in contact are consequently destroyed. In "Johnson's Gardener," vol. iii., p. 109, when speaking of the detached and divided border of Hoare, he says: "This is a failure; and it is a subject for regret that one who had written so ably and practically on wall-culture of the vine, should have reasoned so incorrectly, and launched forth such wild theories relative to the management of its roots." Thus it appears that this very border that is recommended by Bright and put forth as new, is an old feature in grape-culture, and one, too, that has been condemned by some of our best and most experienced gardeners.

The chapter on preparing the soil for vineyards I would heartily recommend, if he would only add a few inches more in depth to the soil.

It is not for the purpose of aiding the roots to penetrate deeply into the earth that we advocate trenching two or more feet deep, but it is to cause the surplus moisture to pass off quickly, and yet have it sufficiently sponge-like to supply the wants of the roots.

This point has been fully investigated and proven, that deep tillage is indispensable in vine-culture. That the Ohio German, as well as all other systems practised in this country, is based upon the plan of deep rich borders, and deep trenching and heavy manuring, as Mr. Bright asserts, I think is incorrect.

That it has been advocated by a few authors, and in a very few instances put in practice, I do not deny, but if our observations have been correct, in a majority of cases the very opposite has been the case, and the very want of good culture has been the cause of the many failures.

We know of some vineyards near Cincinnati that were planted fifteen years ago upon soil that was plowed only fifteen inches deep, and they have succeeded very well. But they were planted upon hill-sides where the soil is naturally rich and deep, yet these vines show signs of failing when they should only be in their prime; and the men who planted them are now trenching their grounds two feet, and in some instances twice that depth for their new vineyards, having learned by personal experience what has been taught in the books of past ages; namely, that a deep, rich, and porous soil is the only soil where the vine flourishes.

Although we have found in this treatise of Mr. Bright those things

which, in justice to the horticultural public, we feel called upon to condemn and expose, we have also found that which, to the amateur, is of much value; and instead of condemning the work as a whole, we should be glad to see it widely disseminated. Because a work is faulty in some parts, it does not follow as a consequence that it is entirely without value. We do not suppose Mr. Bright wrote as he did intending to deceive the public. That he should have fallen on the same mode of culture as others before him is nothing singular, or more than occurs in every business or profession where knowledge is gained by experiment. That we do not agree with him is no fault of his; our examinations, investigations, and experiments have shown that to be worthless in practice which he judges correct in principle.

Mr. Bright deserves the thanks of the public for this book for the good there is in it, and because it will lead to an investigation of the positions stated.

(*To be continued.*)

SUNDRIES.—No. III.

BY A BUFFALONIAN.

As you intimate, Mr. Editor, that you are not yet tired of my discursive remarks, I continue them upon the present volume.

The assertion quoted by Mr. Bement, (p. 24,) that "birds never disturb sound cherries," I decidedly disbelieve in. I have had considerable experience, of a rather irritating nature, with the cedar or cherry bird, which is the only one which causes us much annoyance here, and am perfectly satisfied that he, at least, seeks for *cherries*, not *worms*. I have frequently found specimens, otherwise quite sound, depredated upon to a greater or less extent; and when, as is not by any means uncommon, the entire crop of a tree is appropriated by these little robbers, it is hardly to be supposed that a portion at least is not free from worms. I look upon a cherry bird and a burglar with just about an equal amount of consideration, and would as willingly shoot one as the other. [The cat-bird is equally open to this censure.—Ed.]

"Inarching," (25.) Mention is here incidentally made of a double-flowering peach, "six years old," as having "of course" never borne fruit. Is it so rare for this tree to produce fruit? I am aware that most double-flowering fruit-trees are barren, but we had, some years since, a peach of this sort, which, although but three or four feet high, set quite an abundant crop more than once; I do not think, however, that the fruit ripened. [It is no very uncommon thing for double-flowering Peaches to bear fruit, such as it is.—Ed.]

"Branch-trimmer," (33.) In this we have a good idea very imperfectly developed, as Touchstone might have said. In respect to its being a pruning-*shears*, I like it very well; but in respect that it is a pruning-*knife*, it is a very vile one. The blade is not only of a form entirely unsuited to its proposed object, but the handle is so disproportionately small as to afford a very insufficient grasp to the operator; a very important point in removing a large branch, or operating for any length of time. I think that an American manufacturer might contrive a much better combination of the two implements; but by wearing at the waist a sheath into which either the shears or the

open knife can be thrust, they may be used separately with far more efficiency and scarcely less convenience than the hybrid under consideration.

"Over-shadowing trees," (35.) That these cause immense injury to garden crops and fruit-trees is so unmistakably true, that it is a great error to allow a poor or indifferent tree to stand in the vicinity of either; a *fine* shade tree is a different affair, and is entitled to respect and indulgence. It is a mere waste of time and money, however, to plant any thing near it and expect the same to grow, for grow it will *not*. On our own premises two or three successive plantings of pears were sacrificed to a large chestnut, before it was finally condemned to the axe. (This is one of the worst, perhaps, in this respect, for its influence is felt at a long distance.) I was quite grieved over its fall, but its value has since been amply repaid in apples and pears produced where none would grow before.

"For Market Purposes," (47.) This article of mine seeming rather out of place here, I may be allowed to remark that it was written in reply to an editorial on the subject, in vol. 13, p. 297.

"Tree-boring Insects," (50.) If the assertion here made that insects attack unhealthy trees only be true, how wonderfully at fault have been cultivators, who were and are accustomed to consider the insect as the cause of the enfeebled condition of the tree, not the consequence of it! Mr. Waterton argues ingeniously in support of his views, and I believe him to be correct to this extent, that insects of any kind prefer attacking a feeble tree to one in vigorous health; but I don't believe that the vigorous trees are never attacked. I am satisfied that the saperda, or apple borer, for instance, does not invariably avoid healthy trees, for I have seen trees in that condition bearing marks of its operations—not many marks, it is true, for if so the tree of course could not continue in a healthy state. Another species of saperda, not many years since, destroyed nearly the whole of the numerous locust-trees in and about this city, as well as in other localities, and they were attacked almost indiscriminately, entire rows of apparently healthy and vigorous trees being utterly ruined, if not killed. So numerous were the insects that in a still evening their operations were distinctly audible at a little distance from the trees, the sound being like that made by an auger in entering timber, though not, of course, quite as loud. This may seem a rather tough story, but it is literally true. Now the mountain-ash is undergoing a somewhat similar visitation, and of the many fine ones about the city, I fear few will escape. Some of the largest are already nearly destroyed.

"The Isabella not a native Grape," (73.) I don't consider Mr. Buckley's argument on this point sufficiently convincing to remove the Isabella from the list of natives; indeed, in the face of all the testimony in favor of its American origin, it would be difficult if not impossible to prove it a Spaniard. I observe that even Mr. B. himself has abandoned his position, and in a late number avowed himself convinced of his error.

"Horticulture in Delaware," (78.) Dr. Norris must certainly have been most remarkably successful, if it is from his own experience that he recommends the Bartlett as "one of the very best pears to grow on the quince stock," and states that its asserted imperfect union with the quince "is entirely fallacious." I have had considerable experience with the Bartlett on the quince, both in the nursery and orchard, and regard it as a perfect waste of time and money to attempt to grow it in that manner. That it will in exceptional cases unite well, and form a fine dwarf, is not to be denied; in-

deed, it will very generally do well for two, three, or even four years, but I am not the only nurseryman who can tell you that it is not at all a difficult matter to go through a row of two-year-old trees, and break off at the bud half of them by a pull not more violent than is frequently given in removing a tree from the nursery; nor am I the only orchardist who can tell you of dwarfs of four or five years, broken off at the same point by the wind; indeed, I have even seen that happen in the nursery rows. Other varieties of similar ages unite so firmly with the stock, that their separation is a matter not to be effected without difficulty; and with some it is much more easy to break the stem at any other point than to disunite the fibres of the pear and quince, so closely and firmly are they bound together.

Surely, then, "the idea of its imperfect junction" is not *quite* "fallacious." For myself, I can see no reason for wishing to dwarf a variety which fruits so early and abundantly as does the Bartlett, except in an occasional instance for a very small garden, where a standard is altogether inadmissible; and I must confess, Mr. Editor, that I read with no little surprise your recommendation of it as one of the best six sorts for dwarf culture, (page 96.) Much disappointment must assuredly result from following unconditionally your advice on this head. [We should be greatly pained to have misled any body; and yet we have just advised a young friend, who is about planting a dwarf Pear orchard, to plant one-third of it with the Bartlett. If he selects and plants his trees as we directed him, we shall have no fear for the result. We have never lost but two trees.—Ed.]

"The Peach-tree and its Enemies," (118.) Miss Morris has proved, to my satisfaction at least, that the theory of the cause of the yellows, promulgated by her in vol. 4th, p. 502, of your journal, is the correct one. Peach cultivators are under great obligations to her for the careful researches by which she has arrived at her conclusions, and the lucid descriptions by which she makes known their results. Not having the good fortune to inhabit a peach-growing district, my acquaintance with the disease is chiefly theoretical, but I have never seen an explanation of its cause which appeared so conclusively true upon its face, as the one in question. Were cultivators to dig up and burn without remorse all affected trees, I am convinced that the disease would soon be eradicated.

"Small Trees *vs.* Large Ones," (168.) Planting large trees is always a costly, laborious, and uncertain operation; very successful in a few cases, but in the majority extremely unsatisfactory. I have satisfied myself of the correctness of Mr. Bacon's views on the subject by observations both at home and abroad, and that small trees are generally much the most valuable in after time. I have seen the experiment tried repeatedly, and the result has usually been, that trees planted at two or three years of age outstripped in growth, vigor, and fruitfulness "extra-sized" trees—perhaps ten or more years old—planted nearly at the same time. There are exceptions to this rule, as to most others; and I have planted large trees quite successfully, they continuing to make fine growth, and fruiting immediately and abundantly. Such instances, however, are not common, and are not to be relied upon, for the reverse is most frequently the result.

Were I planting an orchard, I should choose pears and cherries of two years, apples and plums of three or four years' growth, and even dwarf pears I should not wish to plant much older than two years; for, although comparatively easy of removal at a more advanced age, they are apt, unless the

operation is performed with extreme care, to receive a check from which they do not soon recover. The same thing is true with respect to ornamental trees: "extra-sized" evergreens and other shade trees are sought for with avidity every season, more to the benefit of the nurseryman than the planter, for if they grow they are in ten years no larger, and not nearly so handsome, as three- or four-year-old trees planted at the same time.

"Ventilation of Horticultural Houses," (175.) Mr. Chorlton has not yet, it appears, seen fit to change his views upon this subject, and advocates his favorite theory with much vigor and considerable ingenuity. I have no intention of arguing the point with Mr. C., for I have not forgotten the severity with which he "came down upon" a correspondent of your journal last year, who happened to entertain different opinions, and I fear that I might find myself in the same category; I have nevertheless a statement to make, which I conceive rather militates against this *air-tight* plan of grape-growing. In my vinery—a small lean-to—the upper ventilators are placed in the back wall, and perhaps two feet below the roof, it being impossible, from the arrangement of the building, to place them higher; consequently there is above the openings a stratum of warm, moist, and stagnant air, into which the upper extremities of the vines have for two seasons been immersed. The point where the circulation of air ceases is quite distinctly marked, the vines below that point being strong, healthy, and fruitful, the foliage fine, and the bunches of good size, while above it the shoots are weak, the leaves small, and the fruit does not set. When in pruning the vines I chance to thrust my head into this stratum of stagnant air, the sensation is extremely oppressive and almost suffocating, and this while both lower and upper ventilators are open, and the lower portion of the house quite comfortable. I am convinced that I must contrive a ventilator in the roof, or abandon the idea of obtaining any fruit upon the upper extremities of the vines.

"The Negley Pear," (255.) Mr. Heaver is really deserving of the thanks of all fruit culturists for stating the true character of this fruit. It is a fact not to be controverted, that with most men their *geese* are not only very like *swans*, but their seedling fruits are generally of the highest quality. This is natural enough, perhaps, and is only an innocent weakness, (which I confess myself to be not wholly free from,) unless it is paraded before the public, as is sometimes the case, when it becomes a more serious matter. If every one would resolve to buy no new varieties, either of fruits, flowers, or other products, until they had received the commendation of some competent and reliable body of men, we should have less of this constant and fearful increase of *new* things, many of which have no good point *but* their novelty. But people will continue to produce them as long as the public will buy whatever is offered, as is at present the case. I am not animadverting upon Mr. Negley in particular, but the whole class of novelty raisers and novelty buyers. Mr. N. doubtless is perfectly sincere in his *opinion*, but I for one would much prefer to rely upon the *decision* of the Cincinnati Fruit Committee.

"Mulching," (263.) Prof. Coppock has experimented more extensively and perseveringly in this direction than any one that I know, and I have had frequent opportunities of observing his successes. As I have before said, I don't believe in planting large trees, but I do believe in mulching to the fullest extent; and when a big tree is to be moved, there is no one thing of so much importance to its future welfare as a substantial *mulch*. I may remark, *en passant*, that the Bartlett tree spoken of by Prof. C. has

this season produced something like a bushel of fruit, a proof not only of the success of the operation, but of the value of the variety, and its early productiveness *as a standard.*

FRUIT STEALING.

BY C. N. BEMENT.

THERE is, unhappily, a very serious objection to cultivating fruit in our villages and suburban gardens; fruit-stealing is a common crime in most parts of this country, and the standard of principle on such subjects is as low as it well can be in our rural communities. Property of this kind is almost without protection among us: there are, to be sure, laws on the subject, but these are seldom or never enforced; and of course people are not willing to throw away money and time and thought to raise fruit for those who might easily raise it for themselves, if they would take the pains to do so. There can be no doubt that this state of things is a very serious obstacle to the cultivation of choice fruit in our villages and towns. Horticulture would be in a much higher condition in this country, if it were not for this evil. But the impunity with which boys, and men too, are allowed to commit thefts of this kind is really, to say the least, a painful picture, for it must inevitably lead to the increase of a spirit of dishonesty throughout the country.

It is the same case with flowers; many people seem to consider them as public property, though cultivated at private expense. It was but a short time since that we saw a little girl, one of the Sunday-scholars, put her hand within the railing of a garden and break off several fine plants, whose growth the owner had probably been watching with care and interest for many weeks, and which had just opened to reward his pains.

Another instance of the same kind, but still more flagrant, was observed last summer: the offender was a full-grown man, dressed in fine broadcloth, too, and evidently a stranger; he passed before a pretty yard, gay with flowers, with which our beautiful city of Poughkeepsie abounds, and, unchecked by a single scruple of good manners or good morals, proceeded to make up a handsome bouquet, without so much as saying "by your leave" to the owner. Having selected the flowers most to his fancy, he arranged them tastefully, and then walked off with a free and jaunty air, and with an expression of satisfaction and self-complacency truly ridiculous under the circumstances. He made up his nosegay with so much pains, eyed it so tenderly as he carried it before him, and moved along with such a very mincing and dainty manner, that he was probably on his way to present himself and his stolen trophy to his sweetheart; and we can only hope that he met with such a reception as was deserved by a man who had been committing petty larceny.

As if to make the chapter complete, the very same afternoon, the city being full of strangers, we saw several young girls, elegantly flounced and crinolined, put their tiny hands through the paling of another garden, facing the street, and help themselves in the same easy manner to their neighbor's prettiest flowers. What would they have thought if some one had stepped

up with a pair of scissors, and cut off a yard or so from the ribbon on their hats, merely because it was pretty, and one had a fancy for it? Neither the little girl in crinoline, nor the stranger in broadcloth, seemed to have learned at common-school, or at Sunday-school, or even at home, that respect for the pleasure of others is simply good manners, regard for the rights of others, and common honesty.

No one who had a flower-border of his own would be likely offend in this way—he would not do so unwittingly, at least; and, if guilty of such an act, it would be premeditated pilfering. When people take pains to cultivate fruits and flowers themselves, they have some idea of their value, which can only be justly measured by the owner's regard for them. And then, moreover, gardening is a civilizing and improving occupation in itself; its influences are all beneficial; it usually makes people more industrious and more amiable. Persuade a careless, indolent man to take an interest in his garden, and his reform has begun. Let an idle woman honestly watch over her flower-beds, and she will naturally become more active. The occupation itself is so engaging, that one commences readily, and the interest increases so naturally, that no great share of perseverance is needed to continue the employment; and thus labor becomes a pleasure, and the dangerous habit of idleness is checked. Of all faults of character, there is not one, perhaps, depending so entirely upon habit as indolence; and nowhere can one learn a lesson of order and diligence more prettily and more pleasantly than from a flower-garden.

Horticulture is not carried on upon a great scale anywhere in this country. We regret that this should be so. A large garden, where taste and knowledge have full scope, is indeed a noble work, full of instruction and delight. The rare trees and plants, brought with toil, and cost, and patience from distant regions; the rich variety of fruits and vegetables; the charming array of flowers, are among the most precious and the most graceful trophies of commerce, and industry, and adventure. Such gardens are, whether public or private, always desirable in a neighborhood. They are among the best gifts of wealth, and scatter abroad too many benefits to deserve the doubtful name of luxury. If we have none near enough to bring good to our own neighborhood, it is at least pleasant to remember that other communities are more fortunate than ourselves. When one can not enjoy some particular good thing one's self, a very little charity, and a very little philosophy, lead one to be glad, at least, that others may profit by it.

A very striking proof of the civilizing effect of large gardens may be seen in the great towns on the continent of Europe. In those old countries, where grounds of this kind have been more or less open to the public for generations, the privilege is never abused by any disgraceful act. The flowers, the fruit, the trees, the statuary, remain untouched, uninjured, year after year; it never seems to occur to the most reckless and abandoned to injure them. The general population of those towns is, in many respects, inferior to our own; but, in this particular point, their tone of civilization rises far above the level of this country.

Pilfering fruit, or destroying the flowers of neighbors, is, to say the least, a disgraceful act; and yet it is quite common in our cities and villages. We suffer from it every season. It is the result, in most cases, we think, of thoughtlessness, and the bad example of older persons.

Our Horticultural Club was formed with a view to the mutual protection

of our fruit—to detect and punish all trespassers and pilferers—and so far it has had a salutary effect.

[Mr. Bement's article is timely. The evil of fruit-stealing is one of great magnitude in the United States, and is yearly increasing. It deters a great many from growing fruit, either for profit or pleasure. We have a friend who destroyed a beautiful young orchard rather than submit to the robbery of his fine pears. We have laws against fruit-stealing in New York, but they are never enforced; a few examples, we think, would have a salutary influence. Our chief reliance for the abatement of the evil, however, must be the creation of a moral feeling which shall regard fruit-stealing with the same horror as stealing bank notes: there is really no moral difference between them, and both should be punished alike. The "nice young man" alluded to by Mr. Bement we hand over to reprobation; but what shall we say of the girls? Sunday-school girls, too! Surely, Mr. Bement, you did not see girls—— we can not write the word; we think too much of the girls to believe such things of them. We hope Mr. Bement was mistaken; his eyes must have deceived him; or, at most, he saw a ghost! Was it not so, Mr. Bement?—Ed.]

MONUMENT TO THE MEMORY OF A. J. DOWNING.

BY WILLIAM HEAVER, CINCINNATI.

When the loss the country had sustained by the untimely death of the talented and distinguished gentleman who first established the Horticulturist was still fresh in the memories of his numerous friends and admirers throughout the United States, it was proposed to erect a monument, to perpetuate his memory, worthy of the name and fame of a man who had done so much for his age and generation, in improving the taste of his countrymen by teaching and showing to them the great beauties of landscape gardening, in developing and bringing out in bold relief the natural beauties of the scenery with which our extended and varied country abounds.

To Downing, more than to any other or all other men, are we indebted for the tasty and improved styles of architecture displayed in the numerous villa residences to be found in the suburbs of all our flourishing towns and cities throughout the length and breadth of the land. What was done for Britain by J. C. Loudon was commenced and carried into successful operation in this country by A. J. Downing, whose memory ought to be revered, not only by every horticulturist, pomologist, or any other admirer of Nature's gifts, but by every philanthropist throughout the whole land.

Scarcely a citizen in the Union, inhabiting a country or suburban residence built within the last ten or fifteen years, but owes a debt of gratitude to the memory of the man through whose talent and exertions he enjoys much solid and substantial comfort, either in the conveniences, or in the beauty of the style of his residence, or in the ornamental adornment and scenery surrounding the same.

The reasons why the contemplated monument was not erected I am not acquainted with, but the subject has recently been brought fresh to my attention by the action of the Cincinnati Horticultural Society, which some time since

received a communication from the directors of the Spring Grove Cemetery Company to the effect, that the company would deed a lot in the cemetery to the Cincinnati Horticultural Society, on condition that the said society erect thereon a monument that would be a durable and lasting ornament to the grounds; the lot to be selected by a joint committee of the company and the society.

Here, it appears to me, is a most appropriate opportunity for the many friends and admirers of the lamented Downing to unite with the Cincinnati Horticultural Society in erecting a monument worthy the cause and the object.

It further appears to me that this is a most appropriate time to carry such a measure into practical operation. The United States Agricultural Association hold their next annual exhibition near Cincinnati; it is expected that the horticultural department will be a prominent feature in the exhibition; it will certainly bring together a very large number of persons who entertain the strongest respect for the memory of our national benefactor, for in such a light do I consider A. J. Downing to stand before his countrymen. But a mere pittance from each individual of the many thousands who are enjoying the benefits of his superior taste and judgment would erect a monument eminently worthy of the object, and stand as a mark to after ages of the appreciative respect in which his memory is held by his contemporaries. That the place in which it is proposed to erect the same is worthy the object, I would invite you, Mr. Editor, and any of your readers to judge; and I hope that no stranger who attends the United States Fair at Cincinnati will fail to visit the Spring Grove Cemetery. Every gentleman of taste—especially of kindred taste—will quickly discover that the talented superintendent, Mr. A. Stranch, is not only a gentleman of enlarged views, but a perfect enthusiast in his profession of landscape gardening. It would sound too much like egotistic flattery to say a tithe of what we think of him; suffice it that we appreciate his abilities.

Should you consider the foregoing thoughts and suggestions of sufficient moment or interest to merit a place in the HORTICULTURIST, you would confer a favor by publishing the same in your September number, and if the project meets with sufficient encouragement it might assume form and shape during the time of the fair so as to be carried to completion.

[We received the above after our September number had gone to press; but in view of its importance we now print it just as it was written. For the "United States Agricultural Association" the reader can substitute the name of his local society, and the subject will then have a wider application. It is certainly due to the genius and labors of Downing that some fitting monument should be erected to his memory. Several movements have been made with this object in view, and, with the exception of the vase at Washington, they have all failed; failed, in our opinion, from want of concerted action; and we fear that Mr. Heaver's will fail for the same reason, notwithstanding all his warmth and love of the subject. A general committee of five men of the right stamp, with power to appoint local committees, collect funds, locate the monument, &c., would doubtless carry the project to a successful issue. We shall very heartily coöperate with any movement having this object in view.—ED.]

A FEW MORE WORDS ON GRAPE-CULTURE.

BY WILLIAM BRIGHT, PHILADELPHIA.

THE communications in the September number of the HORTICULTURIST, touching the question of originality in the system of Grape-culture proposed in my recent work on that subject, may seem to require some reply. So far as my personal interests are concerned, I do not feel that my system needs any defence; but as I believe the plan I suggested is one which will prove of great value to the country, I am unwilling that it should be condemned and put down by writers who misapprehend its nature, or who from any motives desire to place obstacles in the way of its introduction into general use.

The "Review of the Grape Question," by Mr. A. S. uller, is in no respect a correct or fair statement of the matter. The most important error consists in saying, that under my system of vineyard culture there is a "loss of the crop every other year." Let me say once more, that only every other vine is cut down every year, so that half the vines are constantly in fruiting condition; and as I have more than double the usual number of vines on a given space or border, I maintain that as large and valuable a crop of Grapes will be obtained annually by this method as by any other yet practised in this country.

Mr. Fuller attempts to show that the alternate renewal system which I recommend for the vineyard is not new, by quoting from a work by one Miller, published in England in 1731, in which some directions are given for cutting down canes in the *forcing-house*, to give them rest, and to restore the vines after hard forcing. My reply to these quotations is, that they do not relate to common grapery or vineyard culture, nor do they touch the subject of my specific renewal system at all; and it is a most unjust inference to say that the "renewal system of Bright was *in vogue* in England in the beginning of the last century." Every intelligent reader, at all conversant with the subject, will see that this assertion is positively untrue. We often cut down vines to get stronger canes, but this has nothing to do with the method of culture and the general renewal plan proposed in my work.

I now sum up my position thus: I assert that at the time I published my work on Grape-culture, there was not, to my knowledge, in the current horticultural literature of the English language, any recommendation of any such short cane, single stem renewal system, so stopped and pruned, as I have proposed; nor has any such system ever been practised, so far as I know, (and my knowledge of the fact is by no means limited,) in England or America. Mr. Fuller may go back a century or more, and hunt up in some obsolete old work directions about forcing vines every second or third year; or if he should dig long enough he might possibly find, in the ruins of Herculaneum or Pompeii, a vine that had been so treated; but this does not touch the question, whether or not the entire, distinct, and definite system of vine-culture which I present is a new and original one as compared with other systems now or formerly practised or suggested. I believe this to be the best plan of growing grapes that I have ever seen, and I can not submit to have it fobbed off as an old, worn-out, useless idea on such

irrelevant and perverted evidence as that above referred to. The question of originality in this matter is not now personal to myself alone, but a question of importance to the members of the horticultural profession at large, and with them I leave it. If my system is new and valuable, the public ought not to be fogged with false testimony, nor will I permit it to be done if I can help it.

Mr. Fuller sneers at my selling a Grape Fertilizer for so much per ton. If Mr. F. belonged to the Lord Hyacinth and Charles Yellowplush class of literary fops who esteem it fine manners to turn up their noses at all matters connected with trade, I should not be surprised at the attempt to underrate me, nor would I notice it; but coming from a laboring, trading member of our craft, I can not refrain from turning back this sarcasm with the simple remark, (penned in a spirit of infinite mercy,) that it is unworthy of its inventor.

The communication from Dr. Benson demands a brief and courteous notice. The writer presents good evidence to show that inside borders for the vinery were suggested by Loudon and Johnson, and an inside divided border by Hoare. I do not suppose that I am entitled to much consideration for my proposed improvements in vine borders, but so far as the question of originality is concerned, the quotations made by Dr. B. do not cover my plan. My new border is not only inside and divided, but it is *detached* from the front wall and from the floor of the house by a four-inch flue or air-conductor. Hoare's "hollow wall" (very common in England) is not a positive detachment of the border from the wall, and will not successfully protect the border from frost. My border I still believe to be new in one of its leading and most valuable features.

In the detached border, entirely inside the house, the vines are perfectly protected against changes of weather at all seasons. They can be kept back, in a cold vinery, as long as may be desired in spring, so as to avoid late frosts; they may be ripened off early in the fall by withholding water; and when a crop of grapes has been matured the fruit may be kept upon the vines for weeks and months in a state of great perfection, while open vines, planted in a border partly outside, can scarcely be preserved, in a rainy season, for a week, even if they should be ripened successfully. A detached inside border will preserve grapes as effectually as if the vines were planted in pots with outside borders. I have known cases where hundreds of pounds of grapes, grown at much expense under glass, for private use, have ripened imperfectly in wet seasons, and rotted and fallen off so rapidly that the whole crop was in danger of being lost within the limits of two weeks; and the grapes, being unfit for market, had to be converted into bad wine to save them from utter waste. With inside detached borders, no such accidents can happen. Neither rain nor frost can ever affect such borders. The temperature and moisture of the roots are entirely under control, and the advantages to be derived from these circumstances are too obvious and important to need further comment.

The experience of the last season with the single stem renewal system in the vineyard and grapery but confirms my former opinion of its merits. The economy, certainty, and neatness of the system more than satisfy my mind as to the practical value of the plan. In working on a large scale in the vineyard I have made a few improvements in the management of the vines. For instance, during the period of greatest growth in June, we let

the laterals run to three or four joints, or even six or eight, without stopping, as carefully as in pot-vine culture, for two reasons: first, to prevent bursting the main eyes; and second, because it saves time and labor. Again, when we do stop the laterals after making several joints, instead of pinching the tips we break them off in the middle of a joint, just where a new leaf or lateral is starting, taking off several joints at once, instead of doing this by pinching at several operations. No bleeding takes place, and only a temporary check is given to the lateral. So of the top of the cane. After pinching once at the height of five or six feet, (the top of the trellis,) we let the top lateral or main cane run pretty freely, and then break it back two, three, or half a dozen joints, as may be necessary, to keep it within convenient limits. The same plan I have adopted, this year for the first time, in pot-vine culture, and with canes in the grapery, breaking the tops back roughly, two, three, or half a dozen joints at pleasure, to a lateral or main bud, which is freely starting. After one or two such shortenings of the main cane, you get two or three laterals or main buds at the top in a freely-growing state to serve as safety-valves to the ascending sap, thus preserving all the lower buds with certainty, and preventing an inconvenient, injurious, and unsightly extension of the cane. By the last of August the growth of the vines becomes more moderate, the wood begins to ripen, and we then remove the laterals almost entirely from the four or five lowest joints, and shorten all the upper laterals to two, three, or four joints, according to their freshness or ripeness. The labor of dressing the vineyard after this plan is comparatively trifling, and perfectly simple when once understood. Any intelligent boy, fifteen years of age, can do the work. I feel confident that this system of Grape-culture will be very generally admired and adopted when its merits become known. A personal examination of it in the field is, however, vastly more instructive than any written explanations. I intend to have the whole matter carefully examined and reported upon, by competent authorities, as soon as I can show an acre or two of vineyard and several graperies on this plan in full bearing, which will be very soon.

[We shall be glad to have this subject discussed so long as it can be done profitably, and without the indulgence of personal ill-feeling. Both parties, however, have had a pretty sharp rap at each other, and we propose to have them shake hands and discuss the subject in a friendly way, and forbear calling each other's motives in question. He who keeps cool generally makes the best argument. When the debate is closed we propose to sum up.—Ed.]

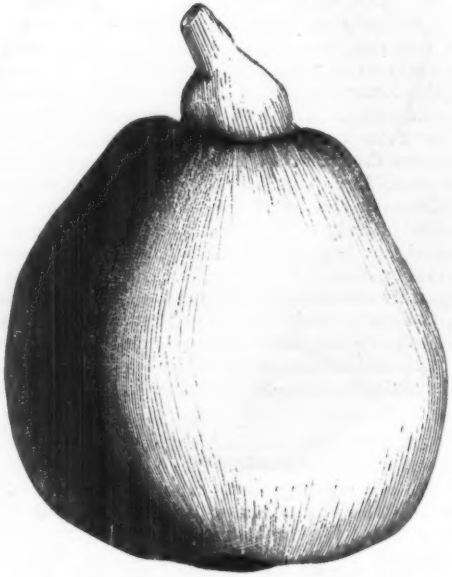
THE BARTLETT STRAWBERRY.

BY THE EDITOR.

[See Frontispiece.]

We present this month, for a *Frontispiece*, a drawing of the Bartlett Strawberry. The truss was taken almost at random from a bed three years old, and may be relied upon as a fair representation of the fruit; it is by no means overdone. It has been grown several years in this vicinity, and

we have had good opportunities of testing it. It is not much behind the Wilson in productiveness, but is decidedly superior to that variety in quality. We have no doubt that it will prove, in most localities, a valuable market fruit. The flower stalks are stout, and stand well up. The leaves are of a dark green, of good substance, and bear the sun well. The following is our description. *Fruit* large, obtusely conical. *Color* dark crimson. *Seed* brown, slightly imbedded. *Flesh* red, firm, juicy, slightly acid, with a rich flavor. *Calyx* large, many parted, and persistent. *Flowers* staminate. It originated with Mr. A. S. Fuller, of Brooklyn.

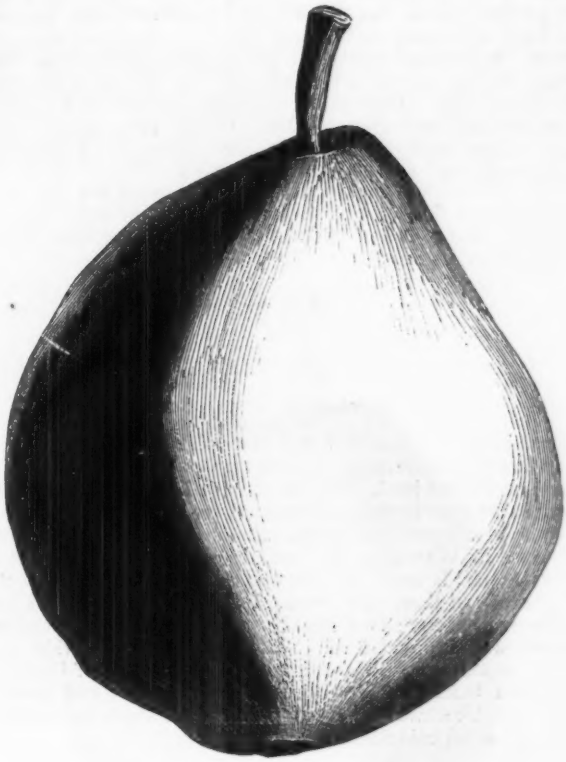


A SECKEL PEAR GROWN SOUTH.

NORTH CAROLINA PEARS.

BY THE EDITOR.

This old state has generally been esteemed as fit only to produce "tar and turpentine;" but she is now about to redeem herself, and we take the opportunity of giving her a good position in the pomological world, or at



A BARTLETT PEAR GROWN SOUTH.

least that part of her known as Clinton; the other parts, we hope, will follow in quick succession. We know of no man who, during the past twelve years, has had greater opportunities of testing fruit from all sections of the country than we have had, except, perhaps, our good old friend, Charles Downing; and we state deliberately, that the best pears we have ever eaten were those recently sent us by Dr. Bizzell, of Clinton, N. C. The Seckel, of which we here give a portrait, it will be perceived, is out of shape, but it was very large, fine grained, juicy, melting, and exquisitely aromatic, including even the nipple, which looks odd enough on a Seckel Pear; but there is no mistake about it. The Bartlett, too, is large and out of shape; and for this reason, and because it is the best one we have ever eaten, we give a portrait of it. The White Doyenné, too, was very large and very fine; the same remark will also apply to the Washington, a pear not

appreciated as much as it deserves. The Duchesse de Berri was of great size, but excessively gritty, and not to be compared to the other specimens.

We thank Dr. Bizzell for these fine pears, and should be pleased to have him tell us the age of the trees, whether the fruit was thinned out, the nature of the soil, height above tide water, pruning, etc., etc. Here, Dr., is another chance for you to do some good in the world.

It may be well to state here, that this box of fruit was received in admirable condition, being packed in dry bran. Most of the fruit that we receive from the South is packed in cotton, and when the box is opened it often smokes like a furnace, and the fruit is much injured, being frequently entirely decomposed. Cotton is about the worst thing that can be used in sending fruit from the South.

PAWLONIA IMPERIALIS.

BY M. W. PHILIPS, EDWARDS, MISS.

Some three to five years ago I was at a neighbor's spending the day, and a hot day it was; some remark about trees called to mind a new tree growing in cultivated land. To him, the like had never been seen; he supposed it a tree from the tropics, and the seed dropped by wild geese, in passing over, or by some other strange way. His description so influenced me, that I begged to see it. We walked—it seemed nearly two miles—most of the way through fields; oh! it was hot to me that day. I told him it was the Pawlonia, and the seed got there from my house. He could not think I had the tree, as he had never seen one; he a colonel *by brevet*. On account of his being a very wealthy man I assured him it was true. Therefore, this tree bloomed before three years ago. I think I remember distinctly of its blooming at a brother's house before he moved, say eight years ago, and he procured his from me. I feel certain the Pawlonia bloomed over ten years ago. So much for a "marked coincidence."

EDITORS TABLE.

To Contributors and others.

Communications, Letters, Catalogues, Periodicals, &c., intended for the perusal of the Editor, and packages by Express, should be directed to the care of C. M. Saxton, 25 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

FRUIT RECEIVED.—From Dr. Grant two boxes of fine pears, containing Dearborn's Seedling, Rostiezer, Beurré Giffard, Bartlett, Belle Lucrative, Flemish Beauty, Tyson, &c., &c., the Tyson of great size and beauty. From Mr. Field, specimens of Belle Lucrative, Flemish Beauty, Duchesse d'Angoulême, Louise Bonne de Jersey, &c. From Mr. Campbell, of Delaware, very fine specimens of the Delaware Grape. From Ellwanger and Barry, handsome specimens of Sheldon, Beurré Superfin, Lodge, Church, Kingsessing, Doyenné Rose, Gansell's Bergamotte, &c. From Mr. Coit, splendid Peaches grown on trees in pots. These gentlemen, and others elsewhere named, will please accept our thanks.

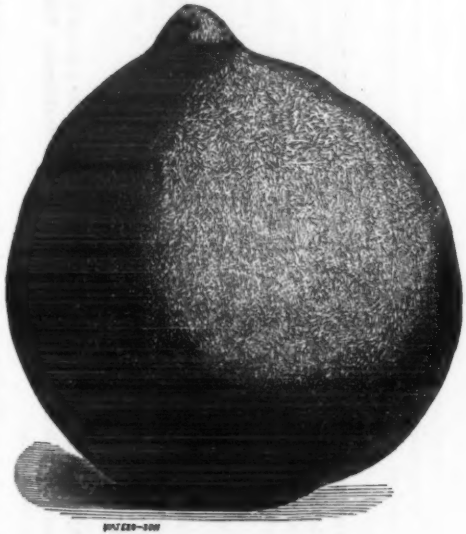
COPY LOST.—Our boy last month lost some of our best "table" matter while on the way to the printer's, and we did not discover it till too late to supply it again, which in some cases would not have been possible. It contained notices of Horticultural shows, acknowledgments for tickets, &c., received, and other matters; all which our readers will please consider as having been properly said.

FAIR OF THE AMERICAN INSTITUTE.—The thirty-second Annual Fair of the American Institute will open at Palace Garden, New York, on the 25th of September, and continue two weeks. The fair this year will be confined to Agricultural and Horticultural productions. The prize list, though somewhat wanting in discrimination, is a very liberal one, and ought to secure a grand exhibition. We bespeak for it the attention of all engaged in horticultural pursuits. We are to have a *princely* ball; let us also have a princely show of fruits and flowers.

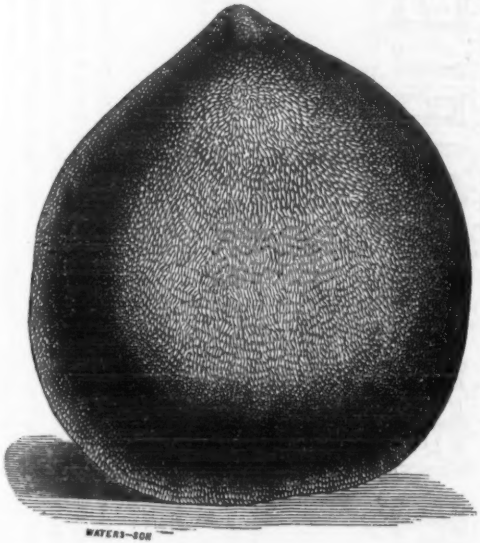
MAPES'S DWARF PEAR ORCHARD.—We recently took a hasty look at Mr. Mapes's pear orchard, and were much pleased with the healthy condition of the trees and the quantity of fruit they bore. With him dwarf pears are a success, and pay. The leading kinds are Duchesse d'Angoulême and Louise Bonne de Jersey.

PEARS FROM MIDDLE HADDAM.—We are indebted to Mr. Stewart for a box of Pears of fair size and appearance, but medium quality, which we take to be the Muskingum. This pear was with our lost copy last month.

HYACINTHS, ETC.—Messrs. Thorburn & Co. will please accept our thanks for a choice assortment of Hyacinths, Narcissus, Nerines, etc., all sound and beautiful bulbs, such as may always be found at their store.



LINCOLN CLING.



HUNTER'S FAVORITE.

SOUTHERN PEACHES.—We are indebted to Dr. Hunter, of Lincoln, N. C., for specimens of very fine peaches, named *Lincoln Cling* and *Hunter's Favorite*. We present drawings of both, not only as portraits, but also as specimens of *photographic* engraving, a new application of the art. Both varieties have a nipple, which is most prominent in the Cling. The latter is large, with a well-marked suture extending through the nipple; color yellow, with a crimson cheek; stone medium. It has a spicy flavor. Hunter's Favorite is a freestone of good size, yellow color, with a beautiful crimson cheek; suture not prominent; stone small. It is juicy and sweet, with a fine spicy flavor. We like the Favorite much better than the Cling.

MORRISANIA HORTICULTURAL SOCIETY.—The annual exhibition will be held on the 3d and 4th of October. We hope they may have a good time of it.

DUNN'S MARKING PENCILS.—The Messrs. Thorburn have received these pencils, and offer them for fifty cents each, including, we believe, a box of leads, in addition to the lead the case already contains.

THE HORTICULTURIST FOR 1861.—We shall next month present some strong inducements for exertion on the part of our friends to increase our subscription list. Meanwhile, we beg them not to be idle. The magazine is worthy, in our opinion, of a generous support, and we aim to add not less than ten thousand to our present list. Our old friends will stick to us, of course.

EXTRACT OF CIDER.—We received a bottle of cider from Messrs. N. Newman & Son, Goshen, Orange Co., under this name, about a year old, which we found to be sweet and very good. He makes it by a peculiar process, and makes it well.

SUBSTITUTE FOR THE GISHURST COMPOUND.—Mr. Brush, of Detroit, in a letter to Mr. Saxton, remarks: "Much is said in the HORTICULTURIST about the virtue of the Gishurst Compound as an insect-killer. If you will suggest to Mr. Mead to mix half a fluid ounce of spirits of turpentine with two ounces (by weight) of whale-oil soap, and dissolve this mixture in a gallon of water, he will have pretty much the same thing as the English compound, and at very little expense. I have tried both these compounds, and do not perceive any difference in their effects. The English compound is composed, I think, of hard soap, turpentine, and sulphur. The sulphur is of no value, and one soap is as good as another, if it be of equal strength. It is necessary to mix the turpentine and soap thoroughly before adding the water, otherwise the turpentine will float, and wherever it touches a leaf will destroy it."—This is a valuable suggestion, for which we desire to return Mr. Brush our thanks. We, however, are inclined to believe that the sulphur plays an important part in some of the applications of the Compound. We shall make up the receipt without and with the sulphur, working in the latter before adding the water. The new mixture should be called the "Brush Compound," and we hope it may prove effectual in brushing away all our plant enemies.

CREVELING GRAPE.—We are indebted to Mr. Goodwin, of Kingston, Pa., for a box of the Creveling Grape, elsewhere described.

NEW HYACINTH GLASS.—Mr. Bliss has left on our table a new Hyacinth glass of beautiful form, with Tye's registered flower support attached. The reader will get a good idea of it by referring to our advertising columns. It is the most elegant thing of the kind we have yet seen. The support can be taken out, and the glass used for Bouquets, &c.; it is also quite ornamental, and may find a place in any parlor.

A CORRECTION.—In Mr. Fuller's article of last month, p. 439, line 3 from top, for "can not" read "can." The correction was made in the proof, but the printer overlooked it, with some others.

HAMBURGH AND MUSCAT GRAPES.—We have to thank Mr. Mullen, gardener to R. H. Winslow, Esq., for very large and splendid bunches of Black Hamburgh and Muscat of Alexandria Grapes. The Muscats were beautifully ripened, and delicious.

SEEDLING PLUMS.—We received from Mr. Reagles a Seedling Plum resembling the Washington in quality, and of which we think so favorably that we should desire to give it a further trial.—We also received from Mr. Wilson, of Albany, another seedling, named "Herbert's Seedling," said to be very productive. These specimens did not ripen kindly, remaining somewhat hard and harsh until they began to decay; and we should hesitate, under these circumstances, to say whether it was an acquisition or not.

SEEDLING VERBENAS.—Mr. Snow has sent us trusses of two exceedingly fine seedling Verbenas, named Snow's Superb and Garibaldi. We are so much pleased with them that we should have been still more so if he had not detached the trusses from the plants. Only think of that, Mr. Snow.

THE ATLANTIC MONTHLY.—The September number is quite up to the mark. Contents: Among the Trees—Victor and Jacqueline—On a Magnolia Flower—Some Notes on Shakespeare—The Great Arm Chair—The Song of Fatima—Something about History—My Neighbor, the Prophet—The Pilot's Story—A Day with the Dead—Culture—The Children's Hour—Three Mile Cross—The Professor's Story—Reviews and Literary Notices.

THE GENESEE FARMER.—We perceive by the September number of the *Farmer*, that Mr. Harris proposes to give it away next year—almost. The three remaining numbers for 1860 will be sent *free*, and fifty cents inclosed to Joseph Harris, at Rochester will secure the paper for 1861! That, certainly, is cheap enough for a good agricultural journal.

WE find that President Wilder's Address has not been put in type, as well as some notes of ours on Mr. Dundas's place, Bright's Nursery, and other Philadelphia matters. Our own remarks can very well go over for a month, but we regret to have the Address do so. We are too much behind, however, to stop longer.

CATALOGUES AND BOOKS RECEIVED.

Premium List and Regulations of the Twelfth Annual Fair of the Washtenah County Agricultural and Horticultural Society, to be held at Ann Arbor, Mich., Oct. 10th, 11th, and 12th, 1860.

The Journal of Rational Medicine. Edited by C. H. Cleaveland, M. D. September, 1860. Cincinnati, P. C. Browne.

The Mother's Magazine and Family Circle. Rev. B. J. Relyea, Editor and Proprietor. New York, 397 Broadway.

The Journal of the Lebanon Agricultûral Society. Annual Exhibition in Smith's Valley, Oct. 10th and 11th, 1860.

Henry A. Dreer's Select List of Bulbous Flower Roots, for sale at his Seed and Horticultural Warehouse, 337 Chestnut Street, Philadelphia.

Descriptive List of Hardy Native Grape-vines, cultivated and for sale by Geo. W. Campbell, Delaware, Ohio.—A very neat descriptive catalogue.

Ravenswood Fruit Garden and Nursery Trade Circular, by H. C. Freeman, Ravenswood, L. I.

Catalogue of Dutch Bulbous Roots, imported and for sale by McIlvain & Young, No. 9 John Street, N. Y.

Descriptive Annual Catalogue of Bulbs and other Flowering Roots, with directions for their

Culture and Management, offered by J. M. Thorburn & Co., 15 John Street, New York.—A varied and choice assortment.

Native Evergreen and Deciduous Trees, for sale by Ramsey & Bell, Elmwood Nurseries, Portland, Maine.

Wholesale Price List for the Fall of 1860 and Spring of 1861, of Fruit-Trees, &c., cultivated and for sale by William Reid, Elizabethtown, N. J.—Mr. Reid keeps none but the best things.

Wholesale Catalogue of Trees, Shrubs, and Plants, cultivated and for sale at the Great Valley Nursery, for the Fall of 1860 and Spring of 1861. By S. T. Kelsey & Co., Great Valley, N. Y.

Seneca Lake Highland Nurseries. E. C. Frost, Proprietor, Havana, Schuler County, N. Y. Wholesale Catalogue for Nurserymen and Dealers in Fruit, Ornamental Trees, Stocks, Seeds, Pits, &c., for the Fall of 1860 and Spring of 1861.

Descriptive Catalogue for 1860–61, of Fruit and Ornamental Trees, Shrub, Vines, &c., cultivated and for sale by James Edgarton, at the Sugar Grove Nurseries, Barnville, Ohio.

Transon-Forteau et Sons' Nurseries, Orleans, (France.) P. and E. Transon, Successors. Trade List for 1860–61.—This Catalogue is intended to meet the wants of the American market.

Circular to Grape Growers, by J. D. Ingersoll, Ilion, Herkimer Co., N. Y.

Bridgeman's Descriptive Catalogue, No. 7. Bulbous and Tuberous Roots. Andrew Bridgeman, 878 Broadway, N. Y.—A very full assortment of Hyacinths, Tulips, Narcissus, &c., and at very moderate prices.

Descriptive Catalogue (for 1860–61) of Fruit and Ornamental Trees, &c., cultivated and for sale by Peters, Harden, & Co., at "Downing Hill Nursery," Atlanta, Ga.

Correspondence.

MR. EDITOR:—DEAR SIR: In the last number of the HORTICULTURIST I notice your remarks, as well as those of your correspondent Foxmeadow, in praise of the Gishurst Compound for destroying insects and mildew; and, as you seem desirous of getting at its real merits, for your information, as well as the readers of your valuable Journal, allow me to inform you that I have not, up to this date, heard from nor seen any of my customers who have purchased the compound from me who have one word to say against it, but, on the contrary, in its praise; and, as a proof of what I say, I subjoin the note which I received from W. O. Van Tyne, Esq., Cleveland, Ohio. "W. Elliott:—Dear Sir: I inclose six dollars for more of your Gishurst Compound. I am very much pleased with it, and find that it completely protects my dwarf Pears, Peaches, and Grapes, from all kinds of insects which have made their appearance this spring." Thus far, I can furnish abundance of evidence of a similar character from the mostdistinguished Horticulturists in the neighborhood of New York, but as you are in daily communication with those gentlemen I don't think it necessary to furnish ou with the evidence.

Yours respectfully, W. ELLIOTT, 31 John Street.

[All the persons you allude to bear testimony in its favor.—ED.]

MR. PETER B. MEAD:—DEAR SIR: I send you to-day *via* Savannah, care of Adams' Express, a small box of Pears as a continuation of samples. No. 4 is the Crassanne, a regular and abundant bearer, thriving only on the pear root. The fruit is smaller than ordinary, owing to the prolonged drought from which we are suffering. You will probably judge of its qualities for yourself if they ripen properly, which it will generally do, like the Bartlett, if plucked after

half grown. It is very juicy and vinous, but with a little astringency, just about enough to leave the mouth clean, and free from any unpleasant taste. The fruit requires to be thinned, as it generally sets two or three on a spur, one being quite enough to be left to attain a proper size. It is liable to crack badly sometimes, but seems perfect though small this season, when even the Bartlett, Louise Bonne, and Grey Doyenné are very knotty. No. 32 was sent me from Milan as the Verte Longue Panachée, but I can not see where it is "long" at all. The larger samples are from a small tree on quince root where I could thin out the fruit, while the smaller ones are from a large tree on pear root, too large for me, without more trouble than I was willing to take, to thin out: both of the same age. These are about as good illustrations of the two different plans, thinning and not thinning, as could well be shown. No. 101 was sent me from Paris as the Fondante des Charneuse, synonym, according to Charles Downing, of the "Duc de Brabant." I have only one tree, which is on pear root, and it did not begin to bear very early, but now bears regularly and too abundantly. If the samples, which are hardly as large as usual, should ripen, you will judge for yourself of its merits. No. 151 is the Louise Bonne d'Avranches or de Jersey, with which I have no doubt you are well acquainted. I will merely remark that although the fruit is full-sized this season, it is knotty. No. 179 was sent me by A. Leroy as the Vicompte de Spoelberg. I regrafted it upon an old pear root, where it bears *excessively*, requiring about nine-tenths of the fruit to be thinned off in order for it to attain any decent size. These are rather below the usual size, and as I hope they will ripen well, they will speak for themselves. What is No. 74? I received it from Paris as the Jalousie de Fontenay Vendée, which it can not well be. It bears regularly and always sets too much fruit, but when ripe, though not first rate, is not to be despised. It is when ripe quite solid, though not hard or juicy, but of very pleasant flavor, of which you can judge for yourself, as it will most probably ripen, not being apt to rot. The Beurré Diel fills the gap between the Bartletts, White and Grey Doyennés, and these Pears. It succeeds with me much better than the Duchesse d'Angoulême, and is a much finer fruit, and little, if any, smaller, bearing much better upon the quince root than the pear.

I have filled up the box with small pears instead of straw or paper, therefore do not mistake them for samples, unless poor ones. The Henry IVth is also in season, but so very small, knotty, and ugly that I would be ashamed to let you see any of them, although they eat tolerably well. I have also thrown in a few Jujube berries, which you will find to grow very fast in favor if they reach you in condition good enough for you to eat them. The tree is well worth being cultivated generally at the South, being quite hardy and ornamental, besides furnishing excellent Bee-pasture for about one month, at a scant season, and excellent fruit for children.

Yours respectfully, ROBERT CHISHOLM.

[The last lot of Pears came to hand in better condition than former ones. We thank you very heartily for the opportunities you have afforded us for comparing your South Carolina fruit with our own. Yours have not suffered by the comparison thus far; but as you have kindly proposed to go through the season, we defer summing up till the end. The Crassanne were of good size, juicy, with a vinous flavor, a little gritty, and astringent under the skin. No. 32 is the Verte Longue Panachée; we find that nearly all Pears assume a globular shape at the South. The specimens from the quince were large and good; the others poor. The Duc de Brabant was above our average size, and very fine. Louise Bonne de Jersey had decayed, which we regretted deeply, as we had a great desire to test it as grown South. Vicompte de Spoelberg were of fair size, but only moderately good. No. 74 we take to be the Spanish Bon Chrieten; it is not the Jalousie de Fontenay Vendée, and it is a rather poor pear, being sweet, but coarse and without flavor. The Jujube berries were not quite dried up, but were very pleasant. We should be glad to have you, by and by, give us some remarks on your soil and culture.—ED.]

HORTICULTURAL SOCIETIES.

BROOKLYN HORTICULTURAL SOCIETY.—Just as we are putting our last form to press the Brooklyn Society is in the midst of its fall exhibition. Their new room at Montague Hall is not, in some respects, as good as their old one at the Athenæum, but it is somewhat larger: the ceiling is too low, and the room too narrow. We hope next year to see them at the Academy of Music. The President has been unwearied in his exertions, and is rewarded by a remarkably fine exhibition. We have only time at present to notice some of the leading features. The collection of fruit was a very choice one. The samples of Apples and Pears from Messrs. Ellwanger & Barry, Briggs, Sprunt, Gordon, Ryan & Co., Marx, Quin, Field, and others, were exceedingly fine. Foreign Grapes were shown in quantity, bunches and berries both being large and fine: this part of the exhibition, indeed, was an advance upon any thing the Society has yet had. The season was too early to see a fine show of native grapes, the Delaware and Hartford being almost the only two kinds in condition to eat, except some grown under glass, which, strangely enough, were put in competition with those grown in the open air. There were two large fruit baskets admirably arranged; they would have been still better had they been smaller. Among the exhibiters of Grapes were Messrs. Cowan, Mullen, Egan, Schmeig, Fuller, Merrit.

The display of Pot Plants was very choice. The leading feature in this department consisted of variegated leaved plants, such as Caladiums, Begonias, Crotons, Marantas, Ananassas, etc. Another striking feature was a large number of Bilbergias in bloom, distributed through the room; and still another, very large and fine specimen of Ferns and Lycopodiums. Here and there in collections might be seen a new or rare plant, which we can now only allude to; but we must not forget one very attractive object, a couple of leaves and a flower of the grand Victoria regia, presented by James Dundas, Esq., of Philadelphia.

The cut flowers were not as numerous as on some former occasions, but they were quite unexceptionable, especially the miscellaneous show of Mr. Weir and Mr. Humphrey, the Roses of Messrs. Dailledouze & Zeller and M. Donadi, the fine Verbenas of Peter Henderson, the splendid specimen Dahlias of Mr. Richardson and the collection of Mr. Veitch, as well as those of Messrs. Brenner, Poynter, and others. The display of Bouquets, Baskets, etc., was very pretty and attractive; we think the effect would have been enhanced by placing the circular table under the dome. But our printer is waiting, and we can only say in conclusion that the exhibition was a highly creditable and successful one, and will be remembered with pride. There were a great number of choice and beautiful objects in the room, which were highly appreciated; but we hope the members will not impeach our taste when we say that the President of the Society presented one of the loveliest of them all.

In conclusion, we give a condensed list of the prizes.

First Prizes.—Ellwanger & Barry, Rochester, for best collection of Pears, $15; for best collection of Plums, $5; for best collection of Apples, $10.—James Cowan, Glen Cove, for best 6 bunches of Foreign Grapes, $10; for best 3 bunches of Foreign Grapes, $5; for best 6 bunches of Native Grapes, 2 varieties, $4; (these were manifestly grown under glass, and we are surprised that the judges should have admitted them to competition with out-door grapes.) —John Egan, New Brighton, for best 2 bunches of White Grapes, $4; for best 3 bunches of Native Grapes, $2.—Chris. Schmeig, gardener to J. Rogers, Esq., for best 2 bunches of Black Grapes, $4.—A. S. Fuller, agent for Dr. Grant, for best collection of Native Grapes, $5.—Thomas Sprunt, Throgg's Neck, for best 12 varieties of Pears, $6.—Alexander Gordon, gardener to E. Hoyt, Esq., Astoria, for best 6 varieties of Pears, $3; for best Orchid, $3; for best 6 Ornamental Leaved Plants, $5.—H. Tanner, gardener to J. S. T. Stranahan, Esq., Brooklyn, for best 2 dishes of Peaches. $3; for best dish of Plums, $3.—J. J. Cox, Brooklyn, for best Nectarines, $3.—A. M. Huggins, gardener to C. Stanton, Esq., for best 12 Quinces, $2.—W. J. Reddy, gardener to Mrs. Packer, Brooklyn, for best dish of Figs, $3; for best basket of Fruit, $8.—I. Leonard, gardener to H. A. Perry, Esq., for best 2 Muskmelons, $2; for best display of Vegetables, $8.—Louis Menand, Albany, for best collection of Plants, $15; for best 4 Plants in bloom, $6; for best single specimen Plant, $3; for the best collection of Ferns, $5; best labelling of Plants, $3.—Geo. Haulyn, gardener to W. C. Langley, Esq., for best single Plant in bloom, $3.—John Humphries, Brooklyn, for best 4 Achimenes, $3.—James

Weir, Sen., Bay Ridge, for the best display of Cut Flowers, $8.—Dailledouze & Zeller, Brooklyn, best display of Roses, $5; best 12 Roses, $5.—Robert Veitch, New Haven, best display of Dahlias, $8.—Andrew Richardson, Fordham, for best 18 named Dahlias, $4; for best 12 named Dahlias, $3; for best Cut Dahlias, $2.—Peter Henderson, Jersey City, for best collection of named Verbenas, $2.—James Weir, Jr., for best Parlor Bouquet, $4; for best basket of Wild Flowers, $3.—Walter Park, Brooklyn, best Hand Bouquets, $4.—Henry Hudson, Brooklyn, best Floral Design.—Philip Zeh, gardener to A. A Low, Esq., for best basket of flowers, $4.

Second Prizes.—R. Mullen, gardener to R. H. Winslow, Esq., Westport, Ct., for 6 bunches of Foreign Grapes, $6; for 2 bunches of White Grapes, $2.—John Egan, for 3 bunches of Grapes, $3; for 2 bunches of Black Grapes, $2.—Thomas Templeton, for 6 bunches of Native Grapes, $2; for 3 bunches of Native Grapes, $1.—B. O'Melia, gardener to Isaac Merrit, Esq., Hart's Village, for collection of Native Grapes, $3.—Jeremiah Briggs, Jamaica, for collection of Pears, $10.—Alexander Gordon, for 12 varieties of Pears, $4; for single specimen Plant in bloom, $2.—G. Marx, Astoria, for 6 varieties of Pears, $2.—C. J. Ryan & Co., Rochester, for collection of Apples, $6.—Wm. Huggins, gardener to C. Stanton, Esq., for Peaches, $2; for Plums, $2.—H. Tanner, for 12 Quinces, $1.—A. A. Degrauw, Jamaica, for 2 Muskmelons, $1.—Geo. Hamlyn, for collection of Plants, $10; for single specimen Plant, $2; for collection of Ferns, $3; for labelling of Plants, $2.—L. Menand, for 6 Ornamental Leaved Plants, $3.—John Humphreys, for Cut Flowers, $5.—M. Donadi, Astoria, for display of Roses, $3; for 12 varieties of Roses, $3; for display of Dahlias, $5.—Peter Brunner, Orange, N. J., for 18 named Dahlias, $3; for 12 named Dahlias, $2.—C. S. Pell, New York Orphan Asylum, for 6 named Dahlias, $1.—Wm. Poynter & Co., for collection of Verbenas, $1. James Weir, Sen., for Parlor Bouquet, $2; for basket of flowers, $3.—Thomas Templeton, for pair of Hand Bouquets, $3.—James Weir, Jr., for basket of Wild Flowers, $2.—Mrs. A. Henderson, for floral design.—Philip Zeh, for basket of fruit, $5.—John McGowan, gardener to H. A. Kent, Esq., for display of vegetables, $6.

Third Prizes.—Chevalier & Petit, for Hand Bouquets, $2.—Wm. Poynter & Co., for basket of flowers, $2.—A. A. Degrauw, for display of vegetables, $4.

THE AMERICAN POMOLOGICAL SOCIETY.—The eighth biennial session of this Society opened at Philadelphia on the 11th of September, and continued three days. The morning session was occupied chiefly in organizing, and appointing a nominating committee. In the afternoon, the President, Marshall P. Wilder, Esq., delivered his address, the principal part of which will be found elsewhere. At the close of the address the nominating committee reported, and the officers were elected. *President*, M. P. Wilder, of Boston. *Treasurer*, T. P. James, of Philadelphia. *Secretary*, Thomas W. Field, of Brooklyn, L. I. We endeavored to get an official list of the officers and standing committees, but failed to do so.

The session just closed lost some of its interest from the fact that the *list for general cultivation* was not touched, the President having recommended that the duty of revising this list should be referred to special and local committees, to report at the next meeting. This we regard as the most important step yet taken by the Society. If these committees shall faithfully perform their duties, something will at last have been done worthy of a national Pomological Society. We purpose helping these gentlemen a little by and by. Their labors will be of the most onerous kind, but we hope they will not flinch from them.

The discussions which followed were rambling and discursive, but some interesting facts were brought out. We find it necessary to condense our reporter's remarks.

An amendment was made to the Constitution, reducing the life-membership fee from twenty to ten dollars. The discussions were then begun, the first in order being the *Apple*. It will be remembered that the list for general cultivation was not brought up at any time, the discussion being confined to varieties which *promise well*. The leading members having expressed their opinions, the following were added to the list of apples which promise well: Summer Sweet, Paradise, Canon Pearmain, Fall Wine, Early Joe, Willow Twig, Limber Twig, Bonum, Stansill, White Pippin, Pryor's Red, Keswick Codlin, Rawles' Jeanette, Maiden's Blush, Pomme Royal, Summer Queen.

The *Currant* was next taken up, and a warm discussion ensued in regard to the merits of the Cherry. Messrs. Wilder, Downing, Hovey, Lawton, and others spoke of it as being excessively

acid, and destitute of flavor; while Messrs. Barry, Hooker, Warder, and others spoke in its favor; and it was finally left on the list, to which were added the Versailles, Fertile d'Angers, and Imperial Jaune, a new French variety.

Strawberries were next taken up, and an interesting discussion followed, in which the opinion was expressed that a distinction should be made between the foreign varieties; that while those from England had almost invariably proved ill adapted to our climate, those from France and Belgium had, on the contrary, proved very promising, as instances of which the Triomphe de Gand and others were mentioned. The Triomphe de Gand was spoken well of by every body, and this and Jenny Lind were added to the list.

Raspberries were next in order. The Allen, after a warm discussion, was placed on the list of *rejected fruit*. The Belle de Fontenay was placed on the list which *promises well*, and the Hornet was well spoken of. The Purple Cane or American Red was highly commended by Mr. Downing.

Gooseberries. The Downing was added to the list.

Blackberries were brought up, several new kinds spoken of, such as the Grape, Parsley-leaved, etc., but none added to the list.

Grapes. This subject proved the most interesting brought before the Society. The Taylor and Maxatawny were added to the list. The Clara was thought too tender for out-door culture. The To Kalon was said to mildew and rot badly in some localities, but was thought good when perfect. The Clinton was spoken well of by Messrs. Hooker and Prince, but others seemed to think little of it. Pauline was recommended by several Southern members as a fine grape. The Massachusetts White met with little favor from any body. Allen's Hybrid was spoken of by several, and the merits of the Anna, Ontario, Rogers' Seedlings, and others were freely discussed. The Delaware met with encomiums, more or less warm, an all hands.

On *Grape-culture* a great variety of opinions were expressed, each man seeming to have a system of his own. On some points, however, there was much unanimity, and some interesting particulars were elicited in regard to trenching, manuring, etc.

Pear-culture, however, brought out a greater variety of opinions than any other subject; some of them, indeed, curious enough. One gentleman thought moisture had more to do with the growth of plants than manure, the impression being that manure was of no consequence where moisture was abundant. Our reporter may have failed to catch his idea. Dr. Boynton gave some lengthened remarks on his mode of using manures for the pear, including a number of salts, by the use of which he claimed to have given his pears a high color and glossy appearance.

The Treasurer reported a balance on hand in 1858, $258.94; received September, 1860, $357; the total amount of expenditures $418.30; leaving a balance of $197.64 in the treasury.

The Standing Committees were announced by the Chair, which we shall publish as soon as we can get them. Boston was selected as the place for holding the next meeting.

The following resolution was passed: *Resolved*, That the thanks of this Society are tendered to Mr. T. P. James, Mr. J. C. Mitchel, and Mr. Wm. Saunders, the committee of arrangements for the meetings of the Society, for the excellent accommodations and polite attention which its members have enjoyed.

The exhibition of fruit was very fine; we annex a list of the chief exhibiters:

From Massachusetts—150 varieties of Pears from the President, Hon. M. P. Wilder—Hovey & Co., Boston, 25 kinds of Pears—G. B. Ide, Springfield, 21 var. Pears—B. K. Bliss, do., 5 var. Pears.

From Connecticut—Specimens Delaware Grape from Wm. Perry & Son, Bridgeport.

From New York—Frost & Co., Rochester, 20 var. Pears and Grapes—Ellwanger & Barry, do., 233 var. Pears, 80 of Apples, and 50 Plums—Dr. Boynton, Syracuse, 55 var. Pears—Thos. W. Field, Brooklyn, a branch of the Flemish Beauty Pear, 22 inches long, on which were 24 large sized and beautiful Pears—Trailing Blackberries, from Wm. Lawton, New Rochelle—H. C. Freeman, Astoria, fine specimens of the Delaware Grape.

From New Jersey—From Wm. Reid, Elizabeth, 26 var. of Pears and 6 of Grapes—John Chambers, Burlington, 112 var. Pears—Wm. Parry, Cinnaminson, 22 var. Pears, 22 of Apple and a variety of Quinces, Peaches, and cultivated Cranberries.

From Pennsylvania—Ellwood Thomas, Mont. Co., large specimens of Apples and Pears—Isaac Baxter, Philadelphia, 30 var. Pears—W. W. Keer, do., Bartlett and Seckel Pears—T. A. Attermas, do., 12 var. Pears and Grapes—Haines and Hacker, Cheltenham, 20 var. Pears and Grapes—Dr. Eshelman, Chester Co., a variety of Pears and Apples—J. L. Darlington & Co., West Chester, a display of well grown Grapes, as also J. Rutter of the same place—S. W. Noble, 22 var. Apples. An attractive feature of the exhibition were the dwarf Peach and Plum trees, laden with delicious fruit, grown in the orchard house of Wm. Saunders, Philadelphia.

From Virginia—22 var. Pears and 25 of Apples, from H. R. Roby, Petersburg—Franklin Davis, Saunton, 75 var. Apples—Oliver Taylor, Yardleyville, 18 var. Grapes and Apples.

From North Carolina—11 var. Apples and Pears, and Scuppernong Grapes, from Walter L. Steele.

From Michigan—120 var. Apples, 20 of Pears, and some fine Cherries.

From Illinois—80 var. Apples from J. H. Stewart, Quincy.

Mr. Cram, of Mount Joy, exhibited the Maxatawny Grape; not ripe, however. Mr. Renison, agent for Mr. Mace, of Newburgh, exhibited fine Delaware and Concord Grapes. Mr. Campbell, of Delaware, Ohio, exhibited the Delaware in great perfection. Mr. Goodwin exhibited the Creveling, a new early grape. Dr. Houghton exhibited a couple of canes in fruit, grown on Mr. Bright's plan. Mr. Spangler exhibited a seedling grape without a name. There were also a number of other exhibiters.

PROGRESSIVE GARDENER'S SOCIETY.—This Society still continues its interesting discussions, for a copy of which we are indebted to the Secretary, R. Robinson Scott, who will please accept our thanks.

(*Continued from page* 456.)

I will now tell you how I have seen manures composted in Edinburgh, when I was a lad. A man had a large yard back of the castle, with a canal through it, divided into three compartments by sluices; the sides was stone-walled and flag-bottomed; alongside the yard were slaughter-houses, tanneries, and currier shops; the offal and washing of these places were thrown into the canal and mixed with stable manure hauled from the city, and after lying a fortnight, being flooded all that time, the liquid was let off into another compartment, and the manure thrown out into a heap, well mixed, and after becoming well fermented it was made into heaps a yard high, and as long and broad as was engaged for. It was always bespoken before it was made up, and sold by the square yard. The great quantity of tan-bark among it neutralized the bad effluvia; it produced heavy crops of all kinds. An after compost was made by farmers near the city, who paid a high price for the contents of the water closets. The night soil was collected and emptied nightly, and hauled out to the farms, and put into large basins made with road earth; a single horse load of coal ashes from the city was put above a double horse load of manure as a deodorizer. After the basins were full they stood so a month; then the road earth forming the sides was cut up fine and thrown on top, and the whole turned over and mixed, and in a fortnight more it was applied to the land, and made early and heavy crops. Another compost was made with the roots of perennial weeds gathered off the field after being plowed and harrowed, and cleanings of ditches mixed with stone lime; the slacking of the lime burned the whole into a mould, and after being turned and well mixed, it was hauled out and spread upon the lands, and produced good crops. Sometimes a heap would have three hundred cart loads. Another compost was made with road earth, lime, and tan-bark, turned and well mixed twice, and never used until a year old; it made good crops.

Liquid Manures are the essence of the solid manures, generally speaking; they give more immediate effect to plants and are well suited for pot-culture, and I think that they are better for woody plants than solid manures, and they can only be taken up by them in that form; they incorporate at once with the soil. Fruit-trees, gooseberries, currants, raspberries, are particularly benefited by them, but they should be applied immediately after rains during hot weather, or be very weak. I think that they do most good if applied in winter or spring. The liquid of the barn-yard is perhaps the best. Soapsuds appears to be of a burning nature, as it hardens the soil very much in hot weather.

W. SAUNDERS.—We are indebted to the member for his very full and interesting informa-

tion, embracing the experience of a lifetime. As to charcoal, I would say that it has little or no manurial property, but its value is as an absorbent. We are told that it absorbs ninety times its weight of water, but no information is given as to the description of wood, on which much depends. The influence of manures on the physical texture of the soil is a very important topic; indeed, too little attention is given to the subject. In many soils the best manure is comparatively of little value. If air, the natural agent, is excluded by superfluous water, the manure will be worthless or inactive. The question of the value of all manures must depend on various circumstances, and those doubtless account for the great difference of opinion as to the application of manure to the surface, or its immediate covering in the soil.

PROF. STEPHENS.—If I understand the question raised by the last speaker, I do not disagree materially with him as to the propriety of manuring on the surface with long stable litter—that is, covering it a few inches. Such manure benefits heavy soils by its decomposition, but in the case of light soils this would be unnecessary. With proper management little loss need result from surface manuring. Manure which is fully decomposed, must lose some of its valuable elements which are already in a condition to be of immediate use to the roots of plants. By plowing in long manure in the fall, leaving it to decompose till spring, it will then be available. I can not see the sense of what is termed surface-manuring; that is, spreading it on the surface where it is fully exposed. True, the gases in part are absorbed by the soil, yet much of the volatile matter is lost and much washed down by the rains. These matters are, however, brought up again by capillary attraction. With reference to the dark liquid, resulting from peat or muck lands, that contains *ulmic* as well as *apocrienic* acids, and these are in a measure injurious to plants. These may be neutralized by an alkali, or they may be corrected by treating with lime.

DR. GEORGE P. NORRIS had some experience in the application of manure; he had always thought it better to plow it in than spread it on the surface. One objection he saw in fall plowing of manure, that in the spring, when required by the plants, the best part was gone. The nearer the food was to the top, where the roots of the young plant are, the better. Top-dressing in fall and plowing in the spring, appeared to him the proper method with regard to the absolute propriety of this practice of surface-manuring; one thing was clear, that one or the other method was the right one, and we should not rest satisfied until this had been clearly ascertained.

C. H. MILLER.—I can scarcely reconcile myself to the common practice of plowing in the manure to the depth that our farmers generally do. This course he had heard advocated for the past twenty years; he was now a believer in surface-manuring. It prevents the surfaces from baking, which is a great benefit. The result which follows from the top-dressing of grass lands is sufficient proof of its utility; by this means clover is produced where it never grew before. Surface-manuring he considered the best, as the manurial properties were not placed too far beyond the reach of the plants.

JAMES JONES.—Had found that stable manure, applied in this way, encouraged the *black fly*, which devoured all the crops of turnips and cabbage. By plowing in the manure to a proper depth, it sufficed for two crops, as he found the ground sufficiently rich for two crops in succession, in some instances.

The Eighth stated meeting of the above Society was held on the 11th of June, at Druid's Hall, south-east corner of Thirteenth and Market streets, Philadelphia. William Saunders, President, in the chair.

It was announced to be one of the objects of this Society to afford its members means of reading the current periodicals connected with their business, and a library would be one of its ultimate features; towards the promotion of this, donations of books and papers are solicited from those favorable to our purpose; and such serials and books as may be spared will be gratefully accepted and acknowledged. Mr. John Pollock, gardener to James Dundas, Esq., Broad and

Walnut streets, was appointed Librarian, and any donation intrusted to his care will be safely deposited. The regular stated meetings are held on the second Monday of each month, so that special notices will in future be dispensed with. After the transaction of other preliminary business the following named members were elected: Robert P. Haines, Cheltenham; James Keenan, Germantown; Charles Greenwood, Falls of Schuylkill. N. B. Should any member be misreported, he will please notify the Secretary, who is alone responsible.

MILDEW.—The subject of Mildew, proposed by Mr. Grassie, V. P., was then taken up, by the reading of the following Essay:

Mildew, whether on the vine, the stems of wheat, the leaves of the chrysanthemum, gooseberry, pea, rose, or peach, is the result of parasitic fungi, the roots of which penetrate the epidermis, rob the plant of its juices, and interrupt its respiration. It is generally admitted that every species of plant has its own peculiar forms of vegetation and animal parasites. Although the same species may not unfrequently be found on different plants, in general they are found in greater abundance on the plants to which they appear to have some affinity. Thus we have the mildew on the peach, the vine, pea, berberry, &c.; named and known as such. This much is admitted, but what we want to ascertain is the cause of its origin. Here we find a diversity of opinion, and, I may add, will likely continue to do so, as on all such subjects.

There are three or four opinions more prominent than the rest, and worthy of our practical investigation; it shall therefore be my object to present those views (as understood by me) to the members, and learn their experience with regard to them.

First, we may take the President's theory of it, in which some of the most practically observing men in this country and Europe coincide. At a former meeting he gave us the result of his practical observation, that plants by nature or habit, natives of a moist climate, introduced into a dryer atmosphere, are victims to mildew; that dry air, as stated in the Theory of Horticulture, acting on the surface of tender vegetable tissue, was favorable to its development, mentioning the lilac and hawthorn as examples. It is a well-known fact, that in dry seasons we have more mildew than in moist; and I have no doubt all of you who have had experience with the peach-tree on walls, in Europe, have observed that those trees that got copious syringings were not troubled with mildew, in comparison with those that were left to themselves. We had two or three dry, warm days this season, in April; with me, English gooseberries, where most exposed, were all mildewed; those in a more moist and shaded position partially escaping. Again, in sowing peas for fall use, if they get good, copious waterings, they are never much affected with mildew, and all know that in a dry fall turnips are apt to mildew.

The Second Theory is quite the opposite of the first. It supposes mildew to be produced by too much moisture; that is, the leaves absorb an excess of moisture from the atmosphere; the soil is too dry for a comparison with the air; that if damp and cold weather succeed that which has been warm and bright, without a good fall of rain, we are sure to have mildew; an injurious absorption of moisture by the leaves and stems of the plants takes place, the ascent of the true sap is retarded, a retrograde motion of the fluids is produced, and the plant becomes the food of fungi. I may add that this theory has been very generally accepted as the true one.

The Third Theory is, that fungi are communicated to the plants from the soil, and developed within the tissue, and that they afterwards make their way through the stomata; that every specimen emits annually myriads of minute seeds, (sporules,) and these are wafted through the air. They may remain dormant until a convenient season, then vegetate and reproduce sporules; that they have likewise the power of spreading by throwing out offsets from the roots, so that they are never absent from the soil, but at one period or other are to be found on the plants subject to their attacks.

The Fourth Theory is, that mildew is caused by the distempered juices of plants, and no one ever saw mildew upon the leaves of a healthy, vigorous plant; in short, is not so much in the atmosphere, either wet or dry, although it originates on the surface of plants, but that the tissue of the subject has always been, previous to being attacked, in a diseased state. I have never

found mildew attack any grape-vines under my charge but once, some three years ago, and then slightly; it was on the variety called *White Nice;* the previous fall the wood had not been well ripened; the next spring it bled considerably; the wood produced was unhealthy, watery, and spongy, hence a fit subject for mildew. We have several cures, in the way of sulphur, nitre, common salt, the fumes of black sulphur, hydro-sulphate of lime, &c. But prevention is always preferable to curative operations, and I have no doubt that if vines are kept in due vigor, well drained, the border protected against excesses of either moisture or dryness, and the leaves protected from sudden atmospheric changes, they will never be visited by mildew. For those who may require a cure, I may mention that I have never found it necessary to cover the bunch and leaves of the grape with sulphur; only simply spreading it about is generally effective. Hydro-sulphate of lime is made of equal parts of quick-lime and sulphur, one pound of each to five pints of water, boiled for ten minutes; to this add one hundred parts more water; let it clear, and syringe with it. Common salt for roses, peas, and similar out-door crops, two ounces to the gallon of water; of nitre, one ounce to the gallon; with this syringe the plants.

After the Essay had been read, quite a discursive debate took place, which we shall not attempt to give in detail. From the points elicited, it may be deduced, that quite a difference of opinion was maintained among the members present. Of the four theories set forth in the essay, it appears two only were held by the speakers. The essayist, while he did not adopt either of them, still appeared to agree with that which attributes mildew to a dry atmosphere.

WILLIAM SAUNDERS thought the principal object with us should be, not so much to discover the cause of the disease, as to point out a remedy by which its evils might be avoided. We have little to do with the scientific questions involved; our object should be to secure our crop of fruit. What is it to us whether mildew does or does not exist in the leaf in an undeveloped state, if we save the crop? and this, I hold, can be done by care, and attention to ventilation, &c. It is also my opinion that mildew can not attack a leaf or plant till decomposition is first going on in the tissues of the plant. Much might be said and conjectured as to the causes; what we want is, facts. I place no importance on authorities quoted here.

JAMES EADIE could not admit that mildew only attacked plants already partly decomposed; his observations had led him to different conclusions. He had detected mildew where there was no previous decomposition.

WILLIAM SAUNDERS.—Damp had been adduced as the cause of mildew, but I can not agree with this conclusion. It has been asked, how shall we prevent mildew in graperies? I say, by admitting little air, and no air below. If mildew be caused by damp, how do we account for the absence of mildew on the gooseberry in the moist climate of Scotland. I may also mention that, while in New Haven, Conn., we had a very damp season in 1850, and there that year I had fine gooseberries, free from mildew. The lilac here is not affected in wet seasons as it is in dry; and the hawthorn—what destroys the hawthorn in this climate, but our dry, hot summers? There is nothing scientific about this matter; if we can prevent this dry, arid air, we can remedy all this. All the remedies applied have acted by producing this result: for instance, salt hay is used to mulch the gooseberry, and, by preserving moisture, prevents the mildew. The mildew on bread has been spoken of as an example that damp produces these fungi; but bread-mildew is not vine-mildew; the idea of mildew seems to be associated with the idea of dampness, but these various forms are various species of fungi. We are told by Lindley, in his Theory of Horticulture, that dry air, acting on tender vegetable tissue, will produce disease. We may set aside the scientific part of the question entirely, and arrive at a proper conclusion. If plants are kept in a house, in a nice, moist, growing atmosphere, they will never mildew. As to European forms of mildew, they are not identical with ours. Grapes are not mildewed in England or Scotland, and the plants that are generally subject to mildew are natives of a country with a more humid atmosphere than ours.

DR. MCCLURE.—But does not mildew occur independent of all these circumstances, as laid down in the case of the gooseberry? And are not peculiar circumstances to be taken into account in the inquiry?

JAMES EADIE.—Can not subscribe to this dry air theory; have found roses attacked with mildew in very damp houses; in fact, the damp appeared to be the direct cause of their being mildewed. I do not know exactly what we should understand by a nice, moist, growing atmosphere. I have experienced mildew in what I would consider just such circumstances. It has been stated that mildew will not occur if air is moist and currents of air avoided, but this is not the fact; the disease is there; it requires some warm, sunny days to make it obvious on the surface of the leaves. The mildew is established during the dark, cloudy days, and, after maturing, rises to the surface, when it is seen for the first time to the eye; but careful examination of the leaves will prove its existence previously; it is shown in discolored blotches, which exposure to the sun will turn brown. When the grape-mildew is fully developed, presenting its peculiar white, downy appearance, it can be washed off with the syringe, but the disease is not washed out of the leaf. There is not a single fungus in existence that will develop in a dry, warm atmosphere.

WILLIAM SAUNDERS.—How is it, then, that they are more prevalent in dry weather?

JAMES EADIE.—Dry weather, immediately after dull, cloudy weather; and I would ask Mr. Grassie if his gooseberries did not mildew in dry weather *succeeding* very dull, damp weather? Why is it that if mildew is worse in dryest atmosphere, that in Syria, of which the grape is a native, it is unknown? and how is the potato disease to be accounted for, attacking a Peruvian plant, which was never subject to *botrytis*, or potato-murrain, in its native soil, in the damp climate of Ireland and England? How is it that the vine-disease is prevalent only in the low countries of Europe, and not in the high districts? Sulphur and lime are applied because of their effects in drying up the fungus.

WILLIAM SAUNDERS.—Another fact may be quoted, in relation to the Virgalieu, or butter-pear. This is rendered worthless in low grounds by cracking and spotting. In city yards it is generally exempt. This is owing, in my opinion, to the protection of the trees by the walls and houses, so that dry currents are prevented.

C. H. MILLER.—Has not had much experience with mildew this season, in-doors; has observed it out-doors more. Avoid cold currents; mildew occurs most in ungenial weather, causing a check or stagnation to vegetation; attacks diseased, sickly plants more than those of luxuriant growth. Has had no mildew on roses; keeps them in an airy yet moist temperature; thinks them more liable in dry than in damp weather. With graperies I allow no front air, till time to ripen off crop; am not an advocate for much air for grapes, and this at top. With proper precaution there is no fear of mildew. Thinks, on potatoes, it occurs in wet weather, and in dry, hot days, after damp weather. Seeds of fungus seem to grow in damp, and are matured in dry atmosphere. This is not very clear, however.

JAMES EADIE.—The last speaker observed that the strong-growing varieties of roses are more liable to attack than others. This is only the case in some instances. *La Reine*, *Giant of the Battle*, and *Reine des Fleurs*, all of them strong growers, can not be kept free from it; while weak, slender-wooded trees are quite free with me. Nor can I concur in the idea that currents of air tend to produce it. All fungi are propagated and developed pretty much under the same conditions. Now, take the mushroom-house as an example: who would think of starting his mushroom-spawn in a current of air? Do not we keep our mushroom-bed as close as possible, exempt from any change of temperature? If the air is kept dry, the fungus will not soon spread, while if kept close it will run before twenty-four hours. It is worse in the hot, dry days which succeed damp weather; then the fungus is dried in the sun, and becomes visible; in the damp weather it was growing and extending rapidly over the plant unobserved.

C. H. MILLER.—It is not injurious in damp weather.

R. R. SCOTT.—There are many topics connected with this subject to which I should feel disposed to advert, did time permit; but, limited as we are, I could not do justice to them. I shall therefore only remark, that there seems little appearance of any unanimity of sentiment here. I think it is an error to come here with a preconceived idea or theory, determined to abide by it, and so force facts as to make them accord with it. In fact, no single theory, nor any of those laid down, will serve to satisfy the requirements in the various forms of parasitic fungi, and the destruction by them of plants, fruits, and grains. The causes that will account for the *vine mildew* will fail to explain the pear fungus, or disease in the apple, pea, or gooseberry. The circumstances under which these various forms of organized life are propagated and developed are different, though the nature of their growth is similar. There are many various forms of them, many entirely distinct in their operation. As to the cracking of the pear, one of the most conclusive evidences of this is the fact, that until all the various theories were exhausted and disproved by a variety of circumstances, the freedom of the *White Doyenné* from cracking, in city yards, first led to the acceptance, in this country, of the statement made years ago by Berkeley, that this was caused by a parasitic fungus. The truth was rejected as long as possible, but in no other way could this fact be accounted for, that the fruit was exempt in cities, where the trees were not subject to the fungus floating in the atmosphere. While I see no probability of agreement of opinion, I believe I can see my way somewhat more clear through the arguments adduced, and this is at least a benefit. Much of the information possessed by gardeners, on this and similar subjects, must be from reading and study, not alone from personal research; time and means do not permit them to investigate scientifically in many branches; therefore they must, if they search at all, accept the opinions of those in whom they think they can place confidence. This, I admit, has been my own course. The information on cryptogamic botany I have gathered, has been from the researches of others chiefly, with such observations in the nursery and garden as I could make; much, however, can be learned in this way, and I do not think it right here to ignore all greater authorities, and confine us to our own observations in questions of this nature. With respect to several arguments used in the course of the remarks this evening, I have something to say. I can not believe that parasitic fungi only occur on diseased tissue; nor that a dry, arid atmosphere is congenial or favorable to the development of their minute *spores* or *mycelia*. I believe, from all that I have seen and learned, that moisture, at least in their nascent state, is the desirable and essential condition, generally; there are exceptions: that after the fungus has been developed and extended through the tissue, that it matures, throws up its *fruit spores*, is then visible; and if a hot sun succeeds, and acts on it, will become brown, and the tissue of the leaf will be destroyed. We should not confine ourselves to one or two forms, but reason from a full knowledge of facts.

WALTER ELDER.—The questions to be answered in the discussion of this subject, so far as I understand it, are: What is Mildew? Whence does it come? Where is it found? And how can we guard against it?

1st. There is a diversity of opinions as to what mildew is; some assert that it is a parasitic fungus; a genus of plants of many species, which bear fruit and propagate themselves by seeds. And this answers the first two questions.

3d. Where is it found? It is found upon nearly all kinds of decomposing bodies, requiring a certain degree of moisture for its workings, either in the air or in the bodies upon which it is found. Ripening grains that have been lodged by heavy rains, and remain long wet, and when shocked and stacked, if not fully dry. Wall-papers produce it when the walls are long wet and the rooms dark; our wearing apparel and eatables, kept long in damp closets and cellars. What we call "fire-fang," in dung-heaps, is mildew; it is upon grape-vines, roses, peach-trees, &c., when growing in forcing-houses; turnips, cabbages, gooseberry-bushes, &c., when growing upon a dry soil, and in a dry atmosphere, and exposed to the sun. It can not exist upon a

dry, light, and airy surface, nor in water. Wherever you find darkness, moisture, and exclusion of fresh air, there you will find mildew, and decomposition going on; upon whatever living plants it is found, they are suffering from a reaction in their growths, and are in a state of decomposition. And mildew is the sign which is first observed upon the leaves, young shoots, and fruits, and if unchecked will soon destroy the plants altogether. And it is only when plants are growing upon a soil and in an atmosphere unsuitable to their natures, that they are affected with mildew. The exotic grape growing out-doors in our Middle States, and the peach-tree growing out-doors in the north of Europe, are affected with mildew, the climates being unfavorable to them. The exotic grape is free of it, growing upon the hill-sides of France; the peach-tree generally, growing in our open fields in the Southern States; the rose in the open gardens; as heat, dryness, and pure air are their especial requisites: but when growing in forcing-houses, stimulated with rich manures, artificial heat, a confined air, and an excess of moisture, their vitality is overstretched and weakened; a slight reaction throws them into a state of consumption or decomposition; hence the cause of mildew upon them. Turnips, cabbages, gooseberry-bushes, &c., are free of it when growing in moist soils and cool atmospheres.

4th. How can we guard against it? This, in a horticultural view, is the most important point; but as it has baffled all the most skilful cultivators the world ever saw, we can not expect to be always free of it in our forcing-houses. We should grow all our plants as nearly in accordance with nature as possible: but how can gardeners supply all the requisites of many different genera and species, growing promiscuously in a glass-house? Where the exotic grape-vine, peach, and nectarine trees are only grown, the same remedy and preventive will suit them all. Lime and sulphur will greatly arrest the evil, and save the plants and their fruit from ruin; clear light, pure air, cleanliness, a uniform temperature, the wall frequently whitewashed with hot lime, fresh slacked lime frequently dusted over the floor, will tend greatly to prevent the appearance of mildew. The new-fashioned glass houses, with stationary roofs and large glass, are far superior to those with deep and heavy rafters and small glass, as they give more light and less shade; the manner of ventilation is also better. The whitewash upon the glass in summer should be very thin, so as to let the light be clear without scorching; thick whitewash is too cloudy in dull weather, which greatly increases the spread or propagation of mildew; darkness, too, is very hurtful to all kinds of plants when under a high temperature, and might cause a reaction in their growths, as sudden changes of temperature often do. Another cause of mildew is the crowding of plants too closely in the houses, which makes too much shade, and retards the free circulation of fresh air among them; and who knows but when the grapery is long close shut up in winter, the seeds of mildew may be sown, and not appear visible until heat and moisture are applied in spring? and it is for this reason that I think that every glass structure for growing plants should have a chimney, like a dwelling-house chimney, and always kept open, both to admit fresh air and to allow impure air in the house to escape. Any person may be convinced of the importance of this, by going through a dwelling-house that has been long shut up; he perceives the difference of air in rooms with open chimneys and those which have not. I think that mildew is a messenger sent to us from heaven to tell us of the approach of evil—to remind us of our duty, and to caution us against imprudence in overdoing our work.

In conclusion, I say, guarding against sudden changes in the temperature of the houses, a strict observance of cleanliness, and a rigid adherence to the scientific principles of ventilation so ably explained to us lately by William Saunders, in his essay upon that subject, will do much to prevent the ruinous effects of mildew in forcing-houses.

Some additional remarks were offered, when it was proposed to continue the discussion of the subject at the next meeting; and members are requested to submit specimens of the more prominent forms of fungi which cause mildew, as well as reliable authorities on the subject. The meeting, having adopted this proposition, adjourned.

OCTOBER, 1860.

THE HORTICULTURIST ADVERTISER.

TERMS FOR 1860.

One page, One insertion, - - - - - $10 00
" Three do. - - - - - - 25 00
" Six do. - - - - - - 45 00
" Twelve do. - - - - - - 80 00

Less than a quarter of a page, at the rate of 15 cents a line for each insertion. The third and fourth cover pages, and the second and third pages in front of Magazine, $15 per page.

Advertisements should *reach the Publisher* by the 20th of the month preceding intended publication. As they are not always able to meet the demands for advertising columns, the communications received first have the preference. *Botanical names must be very legibly written.*

As the space to be occupied by advertisements can be regulated to some extent by the wishes of Advertisers, it is well to indicate on the manuscript about the space wished for, and the number of insertions.

Address **C. M. SAXTON & BARKER, Publishers,** 25 Park Row, N. Y.

Index to Advertisements.

Adams, John W., Portland, Me., ... 44
Adams, O. F., Macon, Ga., ... 36
Albany Tile Works, ... 42
Baker & Smith's Steam Heater, ... 39
Bancroft & Co., San Francisco, ... 36
Barnes & Washburn, near Boston, Mass., 13
Bartlett's Hot-Air Furnace, ... 28
Bartlett's Polar Refrigerator, ... 2
Bliss, B. K., Springfield, Mass., ... 12, 23
Bramhall, Hedge & Co., 442 Broadway, . 4
Bridgeman, Andrew, 3d. page of cover and 10
Brinckerhoff, Daniel, Fishkill Landing, ... 19
Butler, Hosford & Co., 30 Broadway, ... 18
Cadness, J., Flushing, ... 6, 35
Campbell, G. W., Delaware, Ohio, ... 14
Carpenter, H. & J., Poughkeepsie, ... 3
Cornell, G. W., Newburgh, ... 3
Corey, W. H., ... 5
Davenport, Z., Stamford, Ct., ... 14
Davis, E. D., 52 Fulton St., N. Y., ... 28
Dreer, Henry A., Philadelphia, ... 41
E. F., Gardener, ... 22
Evans, E. J. & Co., York, Pa., ... 13
Fahnestock & Sons, Toledo, O., ... 15, 36
Freeman, H. C., Ravenswood, ... 3, 33, 34
Frost & Co., Rochester, N.Y., ... 27, 47
Fuller, A. S., Brooklyn, ... 9, 16
Gas Light Burner, ... 18
Gas Light in every Dwelling, ... 11
Genesee Farmer, ... 8
Grant, C. W., Iona, N. Y., ... 7
Griscom, David J., Woodbury, N. J., ... 17
Grover & Baker, ... 42
Gutta Percha and Glass Roofing Co., 32
Harper & Brothers, Publishers, New York, 40
Heaver, W., Cincinnati, ... 10
Heffron, D. S., Utica, ... 33
Hitchings and King, Centre St., N. Y., ... 30
Hooker & Co., Rochester, N. Y., ... 19
Hoopes & Brothers, West Chester, Pa., ... 22
Hot Water Apparatus, Wilson's, ... 38
Hot Water Furnace, ... 20
Hoyt & Sons, New Canaan, Conn., ... 14
Linsley R., West Meriden, Conn. 14
Mace, B. H., Newburgh, ... 41
Marshall, C. S., 66 William Street, N. Y., ... 37
Maxwell & Bros., Geneva, N. Y., ... 24
McIlvain & Young, 9 John St. New York, . 41
Meehan, Thomas, Germantown, ... 35
New England Farmer, ... 8
Pentland, James, Baltimore, Md., ... 22
Prince & Co., Flushing, N. Y., ... 31, 43, 46
Pullen, Isaac, Hightstown, N. Y., ... 23
Reagles & Son, Schenectady, N. Y., ... 16
Reid, Wm., Elizabethtown, N. J. 2
Roofing Cement, ... 37
Sardy, John B., (Guano) 34
Saul, A., Newburgh, ... 48
Saul, John, Washington City, D. C., ... 7, 17
Schwartz, Christian, ... 37
Sidney & Adams, 520 Walnut Street, Phila., 36
Smith & Hanchett, Syracuse, ... 21
Smith, W. T. & E., Geneva, N. Y., ... 29
Snow, D., Chicopee, Mass., ... 6
Thorburn, ... 3d. page of cover.
Trowbridge & Co., New Haven 33
Ward, Thomas G., Washington, D. C., ... 9
Waters & Son, 88 and 90 Fulton St., ... 13
Watson, B. M., ... 26
Wethered & Cherevoy, 117 Prince St., N.Y. 25
Wheeler & Wilson's Sewing Machines, ... 29

NOTICE.

The Editor of the HORTICULTURIST may hereafter be consulted, at a moderate charge, in reference to the Improvement, Laying Out, and Planting of Grounds, Vineyards, &c., and the Construction of Greenhouses and Graperies, for all which he will furnish Plans.

WILLIAM REID,

NURSERYMAN, Elizabethtown, N. J.,

Offers for sale this autumn a general assortment of all the various kinds of hardy Fruit and Ornamental Trees, Shrubs, &c.

Wm. Reid begs leave to state for the information of his customers and others who may wish to purchase, that from the favorable season we have had here, Fruit-Trees have generally made good growths, and with very few exceptions are very vigorous and thrifty; all the leading varieties, and those suitable for Orchard planting, are cultivated extensively, as well as those of late introduction, and will be furnished when a quantity is taken at very reasonable prices.

The Ornamental department is also well grown, and contains every thing desirable for Lawn or Park planting; also a large stock of Trees and Shrubs for Cemeteries and Public Grounds, which can be furnished in quantities to suit purchasers.

For a g neral list of Fruit and Ornamental Trees, see the General Catalogues, which will be forwarded on application.

Trees securely packed and forwarded to all parts of the United States.

Orders by Mail, or left at the Nursery, will receive prompt attention.

Oct. & Nov.

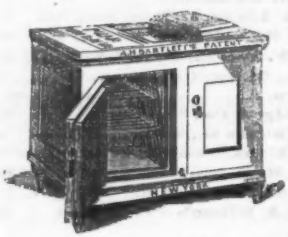
BARTLETT'S

SELF-VENTILATING

POLAR REFRIGERATOR,

With Filter and Water Cooler Combined.

PATENTED JULY 24th, 1855, and NOVEMBER 23d, 1858.



IT IS THE ONLY ONE PATENTED

Having a Condensing Surface exposed to the Provision-Chambers to Extract the Moisture from the Air.

THERE IS NO DRIP, or moisture, deposited on the Sides, Top, Bottom, or Shelves.

A faucet is inserted, so that water poured into the lower angle can be drawn off for drinking or culinary purposes.

The great success and extraordinary large sales of the Polar Refrigerator show that its principles are well understood and its workings appreciated, and seem to leave little necessity for publishing references. 2000 References can be given.

MANUFACTURED BY

BARTLETT & LESLEY,

Oct. A. **No. 420 BROADWAY, New York.**

SMALL FRUITS.

The Subscribers, cultivators of small fruits, offer for sale plants of the following varieties, viz:

Belle de Fontenay, Brinckle's Orange, Fastolf, Allen, Hudson River, and Doolittle's American Improved Black Raspberries.

Wilson's Albany and other Strawberries.

Red, and White Dutch, and Black Naples Currants; New Rochelle, or Lawton Blackberries; and Houghton's Seedling Gooseberry.

All of which will be sold at moderate prices, carefully packed, and forwarded at short notice.

H. & J. CARPENTER,

Oct. & Nov. **POUGHKEEPSIE, New York.**

DWARF PEAR-TREES.

BY THE 1,000, 100, or DOZEN,

Very strong, thrifty, and well branched, (we have given them extra room in the Nursery, and pruned to foster growth of lower branches,) of the following choice varieties:

Duchesse d'Angouleme,	**Vicar of Winkfield,**	**Madeline,**
Louise Bonne de Jersey,	**Stevens' Genesee,**	**Rostiezer,**
Beurre Diel,	**Easter Beurre,**	**Bartlett,**
Beurre d'Anjou.	**Glout Morceau,**	**Beurre l'Angelier.**
Dearborne Seedling,		**Doyenne Bousack.**

Also a large Stock of Linnæus Rhubarb, Orange Raspberry, &c., &c.

Address

H. C. FREEMAN,

Ravenswood Fruit Nursery,

Oct. **RAVENSWOOD, L. I., near N. Y.**

3000 Strong Delaware Layers.

The subscriber is prepared to furnish genuine Delaware Layers, at the following low prices:

Plants with from 8 to 10 feet of short-jointed, well-ripened wood, at $3 00 apiece.
Plants with from 6 to 8 feet of short-jointed, well-ripened wood, at $2 00 apiece.
Plants with from 3 to 5 feet of short-jointed, well-ripened wood, at $1 00 apiece.

A liberal discount to Nurserymen.

Post-Office Address,

G. W. CORNELL,

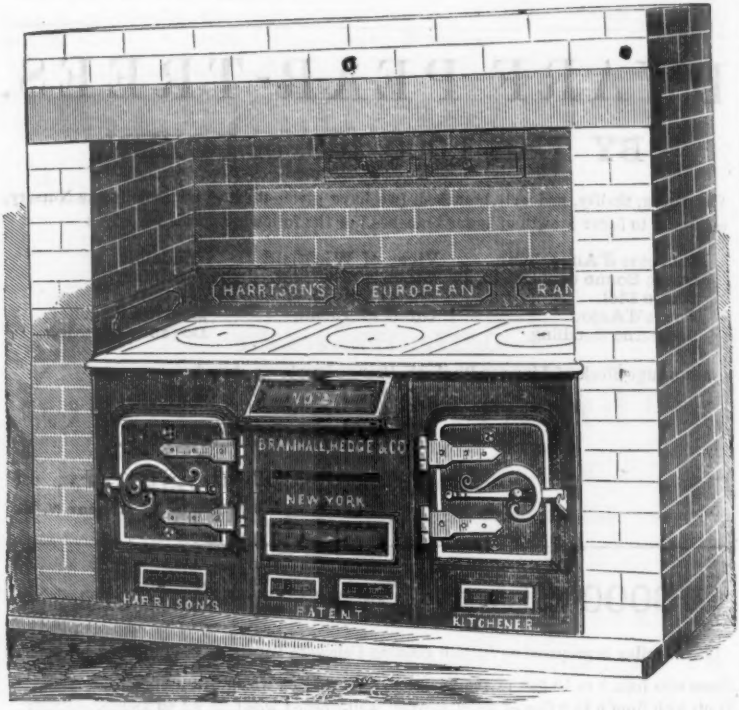
Oct. 6t. **NEWBURGH, Orange Co., N. Y.**

HARRISON'S

IMPROVED

EUROPEAN

RANGES.



These Ranges, adapted to the use of Families and Hotels, are confidently offered to the public as far superior to any ever before in market. For ECONOMY of FUEL, DURABILITY, and GENERAL EFFICIENCY, THEY CAN NOT BE SURPASSED.

BRAMHALL, HEDGE & CO.,

March tf. **MANUFACTURERS, 442 Broadway, New York.**

FLUSHING EXOTIC GARDENS.

The subscriber would respectfully inform his Friends and the Public in general, that he has recently purchased a piece of Land, situate on Broadway, in the Village of Flushing, convenient to Cars and Steamboat Landing, where he will commence business on his own account, and will be prepared on and after November 1st, 1860, to execute orders for all the Leading Stove and Greenhouse Plants; including a large and choice variety of Orchideæ, Ferns, Mosses, the latest New Caladiums, Marantas, Begonias, Rhopalas, and Aralias; with most of the New Variegated Foliaged Plants, Hybrid Perpetual, Moss, Climbing, Bourbon, Noisette, Garden, Tea, and China Roses, by the dozen or hundred, at low rates.

All the leading and new sorts of Foreign and Native Grape-vines, one, two, and three years old, strong plants. Foreign sorts for Fruiting in pots.

Plants well and securely packed for any part of the United States.

JOHN CADNESS.

Flushing, Oct. 1st, 1860.

MACGREGOR'S
PATENT WARM-AIR FURNACE,

With BAXTER'S Patent Steam Attachment for Warming Greenhouses, &c.

Combining in

ONE INSTRUMENT

the uses and superior advantages of the two elements. It is considered the most Economical, Powerful, and Important Furnace ever offered to the public, imparting an Atmosphere highly genial and salubrious, and its principles may be applied on the largest or smallest scale. The Scientific, Practical, and all interested in obtaining the most desirable Furnace now known, are invited to call and examine at the

DEPOT OF THE MACGREGOR FURNACE,

117 Beekman Street, New York.

Oct.

W. H. CORY.

New and Choice Verbenas for the Fall of 1860.

The Subscriber offers for sale this fall the following new Verbenas, grown by him the past season, which he can confidently recommend as being superior in every respect to two-thirds of the imported varieties.

SNOW'S SUPERB, bright scarlet crimson, fine lemon eye, truss good size and of fine form, habit close and compact, a fine strong grower, and a perfect mass of bloom, superior for either vase or bedding purposes, and should be in every collection, ... 25 cts.

ADONIS, bright pink, rosy purple centre, good eye, truss medium size and of perfect form, habit robust and free, fine for vase or bedding, ... 25 cts.

GARIBALDI, rich dark purple, very distinct light eye that does not burn out, truss very large and perfect form, habit vigorous and free, ... 25 cts.

KEEPSAKE, pure white, bright rosy purple eye, truss and pips large and of excellent form, very fine for the vase, ... 25 cts.

WARRIOR, deep carmine red, color bright and distinct, truss good size and fine form, habit robust and free, ... 25 cts.

COQUETTE, clear deep rose, bright lemon eye, truss medium size and of good form, very showy ..... 25 cts.

TOMMY, lilac purple, pips and truss very large and of excellent form, a fine free bloomer, ... 25 cts.

The above Collection of Seven varieties, ... $1 50

The same forwarded by Mail, post paid, ... $2 00

The Subscriber also offers for sale the following varieties of recent introduction (either of which are worthy of a place in any collection) at $1 per dozen, or 25 varieties including the set of new ones, $3.

Same by Mail, post paid, ... $3 75

SNOW WREATH, pure white, very free.

MRS. C. W. FIELD, bright scarlet, with pale rose centre, flowers of immense size, very showy and extra fine, and has been the admiration of all who have seen it the past season.

EUTERPE, fine dark crimson, large truss.

ETHIOPIAN, dark purplish blue, with clear white eye, truss large and well formed.

RUBY QUEEN, bright ruby-red tinted with carmine.

MADAME MATRAS, rosy pink, flowers very large and of excellent form, one of the very best.

MADAME LEMOIN, pink with bright rosy eye, very neat.

CAPT. E. POTTINGER, bright orange scarlet, excellent formed truss, and one of the very best.

MAONETTI COCINEA, foliage and habit precisely like Imperatrice Elizabeth, flowers striped scarlet and white, very neat and pretty.

EMPEROR, bright crimson, violet centre, large and fine.

MRS. J. M. McKAY, bright cherry crimson, light eye, very large flower and fine form, first class.

MRS. TURNER, rosy white, deep rose, purple centre, very neat.

EDNA, pure white, a strong grower and very free.

INSIGNIS, deep crimson, splashed and striped with carmine.

DRED SCOTT, very dark purple, as dark as any in cultivation.

COUNT DE MORELLA, brilliant scarlet crimson, lemon eye.

COLUMBIA, very dark maroon.

B.COLOR, pink with large white centre, very free.

HERMAN STIRGER, matted rose, light eye.

ROSETTE, bright rose, large truss and fine.

Also, a good stock of some of the older varieties, including Bedding Purple, decidedly the best purple verbena ever imported from England, and a variety that every one should have.

PRIMA DONNA, rosy pink, shading to rosy purple, pips and truss of gigantic size, a strong grower and free bloomer.

REINE DE AMAZON, pure white, with dense violet eye.

BACCHUS, very dark maroon, light eye, very free.

EVENING STAR, bright carmine, with distinct lemon eye.

MRS. WOODRUFF, brilliant scarlet, very large flowers.

LE VESTA, one of the very best pure whites, very free.

NEPTUNE, dark maroon.

MRS. PRESTON, pure white.

Beauty of Castile, Etonian, Gen. Simpson, Miss Hensler, Miss Breeze, Lillian Mary, Rubens, Sir J. Outram, and others, good strong plants, ready for delivery after the 15th of October.

Plants can be safely forwarded by mail, during the cool weather of last of October and first to middle of November. Directions for treatment of the plants, on receipt, will accompany each package forwarded by mail. All orders to receive attention must be accompanied with the cash, or satisfactory draft upon New York or Boston, using postage stamps for fractions of a dollar.

Address **DEXTER SNOW, Chicopee, Mass.**

IONA VINES.

My stock of native vines comprises all of the valuable varieties with which I am acquainted. The plants have been produced with great care, under the most favorable circumstances for healthy development, and surpass in excellence any that I have heretofore been able to offer.

For the fall trade, only a limited supply of Union Village, Lenoir (Lincoln) Pauline, Elsingburg, Taylor (or Bullitt) and Allen's Hybrid is offered. Of best Delaware layers also, the supply is not large, but quality unequalled.

The stock from Delaware, single eyes grown both in house and open air, is large and fine. For vineyard planting some strong vines, grafted on Catawba and Isabella stocks, are offered at low price—roots very strong.

Very large layers of Diana, Herbemont, and Concord, grown with especial care for immediate bearing. Good layers of Anna, Roger's Hybrid, 12 kinds; also Clara, Cassidy, To Kalon, Rebecca, Miller's Louisa, Logan, Emily, Canby's August, Early Hudson, H. Prolific, Cuyatoga, &c.

A general assortment of Foreign varieties for vineries.

Of Downing's Everbearing Mulberry, the supply is not large, and a great part of the trees already ordered. They are very vigorous, and the wood well grown and matured.

Wholesale list sent to the trade on application. Fourth edition of descriptive Catalogue sent for two three-cent stamps. It is designed to be a full and comprehensive treatise on the management of the vine, giving such information as purchasers and growers are supposed to need. Particular direction are given for the preparation of the soil and planting, and the directions for training are illustrated by many carefully prepared engravings.

The descriptions of the varieties will be found accurate and trustworthy, being drawn from personal knowledge, and very extensive observation.

C. W. GRANT,

IONA, NEAR PEEKSKILL, WESTCHESTER CO., N. Y.

Aug. Sept. Oct. 1t.

THE BEST PAPERS FOR THE FARMER.

The most valuable mediums for the Advertiser.

THE

New England Farmer, Weekly,

Is one of the oldest and most widely known agricultural papers in the country, and is designed to supply the farmer and his family with reliable information in regard to Agriculture and Horticulture, the latest news of the day, market reports, &c., &c.

Published every Saturday, at TWO DOLLARS a Year.

THE

New England Farmer, Monthly,

Enjoys also a large circulation. It is a magazine of 48 large octavo pages, devoted to Agricultural and Horticultural subjects, handsomely illustrated, and well printed on fine paper.

Published on the first of every month, at ONE DOLLAR a Year

TO ADVERTISERS our publications offer unusual advantages, as THEIR CIRCULATION IS NOT EXCEEDED by that of any similar publications in this part of the country, and our terms compare favorably with those of any other Journals.

Send for specimen copies, and circulars, furnished free at all times.

Address,

NOURSE, EATON & TOLMAN,

Publishers New England Farmer,

Oct. '60.—6t. **No. 34 MERCHANTS ROW, Boston, Mass.**

ESTABLISHED IN 1831.

THE GENESEE FARMER.

EXTRAORDINARY OFFER!

Three Months for Nothing!

This old and popular Agricultural and Horticultural journal is published at Rochester, N. Y., in the very heart of one of the best wheat and fruit districts in America. It has hundreds of practical and experienced correspondents in all parts of the United States and Canada. It aims to be the "Farmers' Own Paper." In its pages, the farmers and fruit-growers of all sections interchange their views and record their experience. It costs ONLY FIFTY CENTS A YEAR, and all who subscribe at this time will receive the remaining numbers of this year FREE.

FIFTEEN MONTHS FOR HALF A DOLLAR!

Send the fifty cents in Stamps to JOSEPH HARRIS, ROCHESTER, N. Y., or get one of your neighbors to join and send a dollar bill.

Oct. 1t.

PEACH.

Camellia Flowered.

for THE HORTICULTURIST,
Published by C. M. SAXTON, BARKER & Co., New-York.